THIS VOLUME HAS BEEN PURCHASED FOR
THE LIBRARY OF
THE NEW YORK ACADEMY OF MEDICINE
FROM PROCEEDS OF THE
LANDON CARTER GRAY MEMORIAL FUND

THE N.Y. ACADEMY OF MEDICINE
JAN 22 1948
LIBRARY

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

75
1948

CONTENTS

Guest Editorial. Wesley Bourne, M.D., Montreal, Canada 1

Digestive Symptoms Associated with Disorders Located Outside of the Digestive Tract. W. Halsey Barker, M.D., Baltimore, Maryland 4

Virginia's New Coroner System. Charles M. Irvin, M.D., Roanoke, Virginia 14

Management of Gastro-Intestinal Bleeding. Guy W. Horsley, M.D., Richmond, Virginia 17

Hopeful Aspects of Cardiovascular Disease. R. Earle Glendy, M.D., Roanoke, Virginia 19

Rhabdomyosarcoma: Case Report with Response to Roentgen Therapy. Stuart J. Eisenberg, M.D., Richmond, Virginia 27

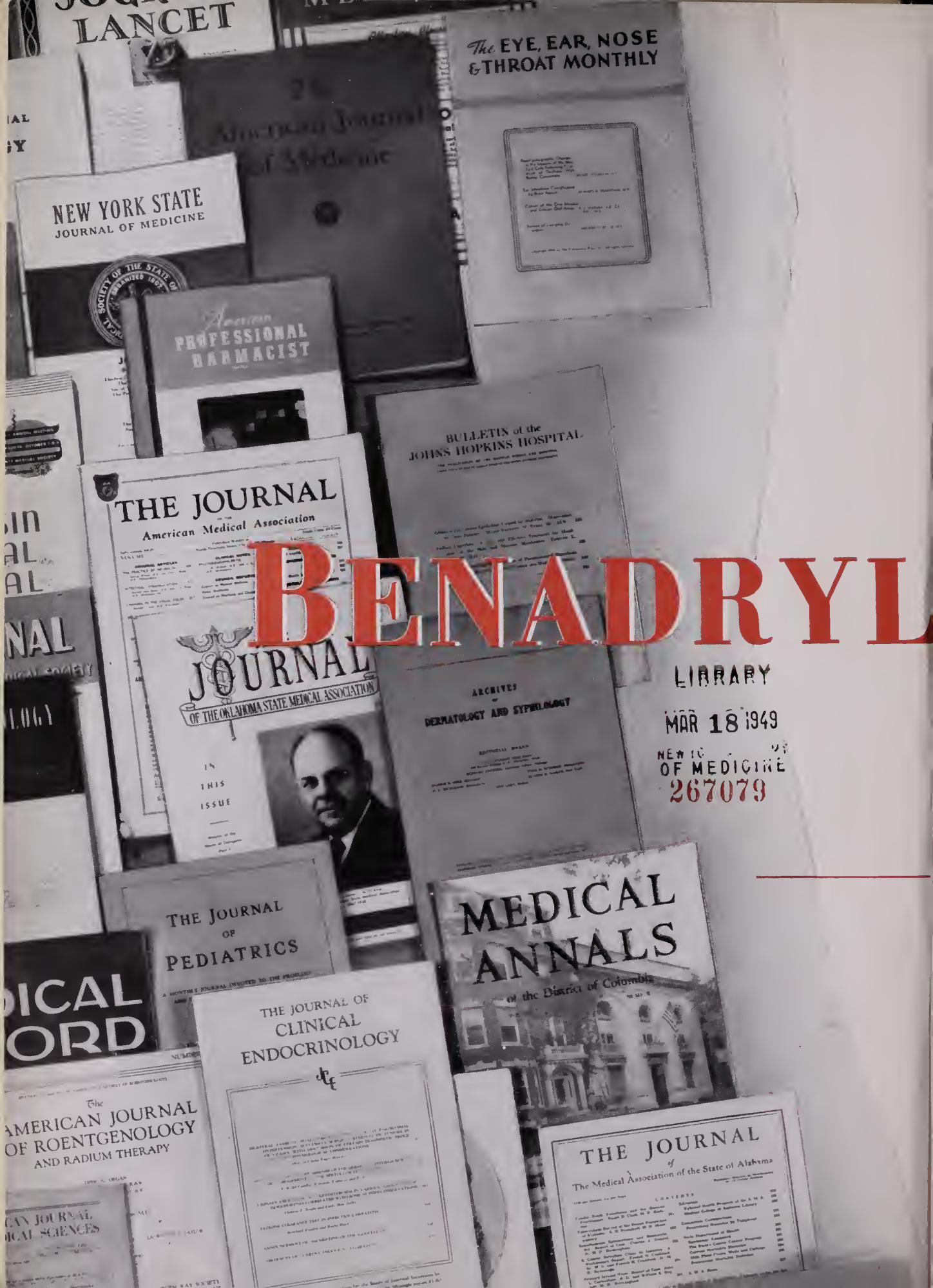
The Use of Anti-Convulsive Drugs. R. Finley Gayle, Jr., M.D., and Thomas F. Coates, M.D., Richmond, Virginia 29

Brucellosis (Undulant Fever). G. R. Tureman, Jr., M.D., Richmond, Virginia 32

Continued on page 6.

HAPPY
NEW YEAR!

January, 1948



LIBRARY
MAR 18 1949
NEW YORK
OF MEDICINE
267079

Virginia Medical Monthly

Vol. 75, No. 1
WHOLE No. 1147

RICHMOND, VA., JANUARY, 1948

$2.00 A YEAR
25 CENTS A COPY

GUEST EDITORIAL

Post-Graduate Education in Anaesthesia

THE student-specialist, more than any other of us, needs the lessons of the laboratory, said Sir William Osler, and wide contact with men in other departments may serve to correct the inevitable tendency to a narrow and perverted vision, in which the life of the ant-hill is mistaken for the world at large. It has long been a maxim that physiology is a requisite introduction to medicine, and Sir Charles Sherrington, in *Man on his Nature,* points out that the word was first used by Jean Fernel in 1542.

As in medicine generally, so in its branches, the so-called basic sciences ought to be understood, and increasingly those who have to do with the teaching of anaesthesia are emphasizing the importance of some special knowledge of anatomy of biochemistry, of pharmacology and of physiology. Recently, in the English-speaking world at least, medical schools are paying more and more attention to the teaching of anaesthesia, following the leadership of Ralph M. Waters, Professor of Anaesthesia at the University of Wisconsin. Every now and then one hears of the establishment of another department of anaesthesia, in each instance with an increase in the number of lectures, of laboratory periods and of the hours spent taking an active part in clinical anaesthesia. It is remarkable how much satisfaction this improvement brings to the medical student; in fact, it is he who has caused it to come about by persistently requesting better opportunities to learn anaesthesia.

With the growing tendency towards a better appreciation of the necessity of good anaesthesia, of greatest importance is the post-graduate course. Seeing that there is considerable similarity between the courses already established, it may suffice briefly to describe the organized Three-year Diploma Course which functions in the department of anaesthesia at McGill University. In this course the aspirant must have had one year of internship in an approved hospital, preferably in the department of internal medicine. Throughout the three years, the candidate resides in one of six hospitals moving from one to another every six months. In this rotative manner the individual gains a diversity of experience under the tutelage of many qualified anaesthetists. The benefits of this many-sided method of acquiring skill are readily evident for he who learns from many masters is bound to be more versatile and more percipient than he who ranges under one rubric. The anaesthetist of tomorrow ought therefore to be all the more accomplished. Such a course enables the participant to prepare for the Diploma in Anaesthesiology of The Board of Anaesthesiology of The American Medical Association, for the Diploma in Anaesthesia of The Royal Colleges of Physicians and Surgeons of England, and/or, for Certification in Anaesthesia by The Royal College of Physicians and Surgeons of Canada. Furthermore, from the research point of view, one or more of those who have taken this course are carefully chosen from time to time to carry out investigation in anaesthesia. Has not

John Dewey written, just last year, in his *Problems of Men,* that according to empirical pragmatic philosophy, science provides the only means we have for learning about man and the world in which he lives?

All through the course there are weekly seminars and symposia, carefully planned and supervised. Occasionally each year guest speakers of distinction are brought on from other universities. Each member is obliged to write a thesis on an allocated subject which, after presentation, is subsequently edited and mimeographed for distribution. As early in the course as can be arranged with the chairmen of the respective departments, ancillary courses are given on topics of the basic sciences as these pertain to anaesthesia. Aristotle has said that "physicians of the better class devote much attention to the study of the human body."

In anatomy fifteen afternoons are spent in the laboratory under the direction of the Professor or his Associate and the course comprises: 1. The anatomy of the respiratory tract with special reference to tracheotomy, intubation, etc. 2. The vertebral column. vertebral canal, spinal cord and the meninges. 3. The general course and distribution of the peripheral nerves. 4. The cranial nerves. Special attention is paid to the sites where each nerve is available for injection, the anatomy and surface landmarks of such sites, advantages and disadvantages of alternate sites, hazards of each and safeguards to be taken, anaesthetic area resulting from each block, common variations and possible sources of partial failure. As an example, the brachial plexus may be taken. First the composition and anatomy of the plexus is dealt with, its branches, their course and distribution. From this four different routes for injecting the plexus are arrived at—the paravertebral, supra-clavicular, infra-clavicular and axillary. The anatomy and surface markings of each route are described. The students carry out the injections on the cadaver and have to verify that the point of their needle actually reached the desired spot. The advantages and disadvantages and hazards of each route are discussed. Similar injection sites in the distal part of the upper limb and in all parts of the body are dealt with in the same way. Extradural blocks, including sacral (so-called "caudal") block, and dental blocks receive special attention.

Instructional opportunities for anaesthetists in the department of biochemistry of McGill University had inception during the war when those medical officers of the fighting forces who had been sent for training in anaesthesia were detailed to that department. Here the following schedule is at present in operation: 1. Blood—Present knowledge of blood preservation; trends in the operation of hospital blood banks and in the distribution of blood to hospitals; new developments in apparatus for collecting, storing and administering blood. 2. Blood Substitutes and Blood Groups—Current views on so-called blood substitutes; use of preserved blood serum, plasma, albumin and globin; survey of blood groups and types. Laboratory demonstrations on technique of blood-typing. 3. The Rh Factor and Its Clinical Significance—Present knowledge and trends. 4. Body Water and Electrolytes—Review of salt and water metabolism. 5. Nutrition—Basic considerations in energetics and nutrition. 6. Liver Function and Liver Damage—Critique of various tests of liver function; factors which cause liver damage; renohepatic relationship. 7. Kidney Function—Current concepts of function and factors that lead to impairment. 8. Protein Metabolism in Disease—Disturbance in nitrogen metabolism after trauma; treatment—restoration of nitrogen balance.

In the department of pharmacolcgy six one hour periods are devoted to discourses on the actions of the various drugs used in anaesthesia. Particular attention is paid

to the opiates, the barbiturates, drugs used for regional anaesthesia, curare preparations, and the analeptic drugs. In each instance special consideration is given to relative toxicity, efficacy and applicability.

The course in physiology consists of lectures and demonstrations followed by laboratory periods in which the salient points of the lectures are studied experimentally. Six afternoons of three hours each are given over to this work. The physiological background of problems confronting the anaesthetist are discussed. The main attention is directed to three major systems most directly implicated in anaesthesia: (1) The nervous system, (2) the respiratory system, and (3) the cardiovascular system. Under the first are treated the problems of Pain, Sleep and Unconsciousness, Muscular Tone and Relaxation, and the Autonomic System. For the second are subsumed Mechanical Factors, Nervous Control, and Chemical Control. The third is divided under the headings of The Heart, and The Blood Pressure.

Imbued with so much knowledge of those parts of physiology and its allied subjects which particularly illuminate his speciality, the student of anaesthesia may find himself on

Serene Plateaus, well fortressed by the wise,

The *templa serena, bene munita* (Lucretius de *rerum natura,* 11. 7-8). The student of anaesthesia will find himself equipped intellectually to attack those clinical problems, which are so varied and so ever-present in this branch of medicine.

WESLEY BOURNE, M.D.,
Head of Department of Anesthesia,
McGill University, Montreal, Canada.

EDITOR'S NOTE. Dr. Bourne is one of the outstanding teachers of Anesthesia in America.

Floral Eponym (58)

GENTIANA

GENTIUS, KING OF ILLYRIA

Gentius, whose physicians discovered the tonic value of the gentians, was the son of Pleuratus and a contemporary of Perseus, the last king of Macedonia. He is first mentioned as having incurred the displeasure of the Romans on account of the piracies of his subjects who infested all the Adriatic. His greatest faux pas was an alliance with Perseus (B.C. 168) which led to his speedy downfall. He and his wife and children were sent as captives to Rome to adorn the triumph of Anicius Gallus. Thence Gentius was sent to Spoletium where he ended his days in captivity. According to Pliny and Dioscorides, the herba Gentiana derives its name from this Gentius, who first made known its medicinal value.

The gentians are chiefly perennial herbs. They are among the most desirable of alpine plants, and of blue flowers in general. The blue gentian, celebrated by tourists in the Alps, is mostly the stemless *G. acaulis.*

DIGESTIVE SYMPTOMS ASSOCIATED WITH DISORDERS LOCATED OUTSIDE OF THE DIGESTIVE TRACT*

W. HALSEY BARKER, M.D.,

Assistant Professor of Medicine and Visiting Physician,
Johns Hopkins University School of Medicine and Hospital,
Baltimore, Maryland.

A careful analysis of any large series of patients with so-called "digestive symptoms" would reveal that in at least 50 per cent the basic disorder was located outside of the gastrointestinal tract. If one were to include among the non-gastrointestinal disorders psychosomatic digestive manifestations, the percentage of non-digestive disorders would soar to a still higher figure. Such a situation makes it imperative that the gastroenterologist, if he is to avoid serious errors in diagnosis, be a good general internist at the same time. How distressing it must be to the general clinician, not to mention the patient, to hear the occasional ultra-specialist in gastroenterology remark, "I have no idea what her trouble is—x-ray of her gall-bladder, stomach, and bowel are all normal", or "This is purely a functional disorder—there is nothing wrong with her"! To be sure, the experienced gastroenterologist with his special techniques such as fluoroscopy, gastroscopy, and proctoscopy, and his wide therapeutic experience in his chosen field can be of inestimable assistance to the general internist on many occasions, but Heaven help the unsuspecting victim of a tabetic crisis, coronary thrombosis, lead colic, or neurotic vomiting if he fall into the hands of a narrow-minded gastroenterologist whose thought processes are limited by the internal boundaries of the peritoneal cavity!

Such "digestive symptoms" as abdominal pain, nausea, vomiting, heartburn, diarrhea, constipation, eructation, flatulence, singultus, and jaundice are encountered in a variety of extra-digestive disorders. All of these symptoms, alone or in various combinations, may be prominent features in a variety of infections, poisonings, pulmonary diseases, cardiovascular and renal disorders, obstetrical, gynecologic and urologic conditions, metabolic disturbances, blood dyscrasias, extra-abdominal or metastatic tumors, and diseases of the central nervous system or special sense organs. Certain of the more important of these conditions will be discussed in the order just enumerated.

INFECTIOUS DISEASES

Such common infections as *colds, influenza, measles, chicken pox, scarlet fever, and streptococcal sore throat* are frequently ushered in with anorexia, nausea, vomiting, and stomach-ache. Although this is particularly true of young children, it is not an uncommon mode of onset in adults as well. Upper respiratory complaints such as nasal congestion, coryza and sore throat as well as chilliness, fever, and malaise, are usually present. These symptoms along with a history of exposure, when obtainable, and the characteristic appearance of the skin, buccal mucosa, or throat should enable one to make the correct diagnosis on the first or second day. However, most physicians have undoubtedly encountered numerous instances of what is called—for lack of a better name—"*intestinal flu*", an acute infection, in all probability due to a filtrable virus in view of its contagiousness, which is characterized by severe abdominal pain, nausea, vomiting, diarrhea, malaise, and fever. In this disease symptoms referable to the upper respiratory tract may be minimal or entirely lacking at first, although coryza and sore throat frequently develop several days later when the gastrointestinal symptoms are subsiding. The abdominal pain may be sufficiently severe to simulate acute cholecystitis or appendicitis and may puzzle the most astute surgical consultant. Leucopenia, when present in this type of infection, will prove helpful in distinguishing it from an acute surgical condition.

Vomiting is a common early symptom in *erysipelas* and may prove baffling if the skin lesion is not detected. Mesenteric or retroperitoneal adenitis complicating erysipelas, scarlet fever, or other streptococcal infections may readily be confused with appendicitis or other primary abdominal conditions, while *mumps* may give rise to an acute pancreatitis or oophoritis with severe abdominal pain and

*Read by invitation at the 100th meeting of the Medical Society of Virginia in Roanoke, October 13-15, 1947.

vomiting. It is important to remember that these complications of mumps rarely if ever require operative treatment in contrast to primary acute hemorrhagic pancreatitis or pyogenic ovarian abscess. A history of parotitis, which precedes the abdominal complications in the majority of cases of mumps, is most helpful in differential diagnosis.

Every pediatrician is familiar with the severe and at times intractable vomiting that so commonly confronts him in children with *whooping cough*. Persistent diarrhea may also prove troublesome. Diagnosis is rarely difficult in view of the paroxysmal cough with the characteristic whoop.

Abdominal pain, rigidity, and vomiting may be prominent features and occasionally the only symptoms of an attack of *acute rheumatic fever*. Differentiation from acute appendicitis may be extremely difficult. Some believe the abdominal symptoms are due to rheumatic peritonitis. The response to salicylates may be dramatic.

Infectious mononucleosis, also known as acute benign lymphoblastosis or glandular fever, is a peculiar infection presenting a highly variegated clinical picture. Marked anorexia, vomiting, abdominal pain, and jaundice are not infrequently encountered. This disease can usually be recognized by the generalized lymphadenopathy, characteristic blood picture with numerous abnormal lymphocytes, and a positive heterophile antibody test.

Weil's disease, due to Spirocheta icterohemorrhagica, furnishes another example of an acute generalized infection in which abdominal pain, vomiting, hepatic enlargement and jaundice are prominent manifestations. It should always be considered in patients with febrile jaundice. Renal involvement with albuminuria and azotemia are commonly present, but final diagnosis depends upon isolation of the causative organism through inoculation of blood and urine into experimental animals or upon agglutination tests. *Yellow fever* and *malaria* are other infections which must be considered in the differential diagnosis of acute febrile jaundice.

Many patients with *septicemia* complain of vomiting, abdominal pain, distention, diarrhea or constipation, and jaundice is not infrequently present. The importance of a blood culture in any case of unexplained fever, no matter what the presenting symptoms may be, cannot be too strongly emphasized.

In rickettsial infections such as *typhus* and *tick-bite fever* vomiting may be very pronounced. Diagnosis is based upon history of lice infestation or tick-bite, the characteristic eruption, and the Weil-Felix reaction.

POISONINGS

Gastro-intestinal symptoms are almost invariably present and frequently violent following the ingestion of various poisons such as bichloride of mercury, carbolic acid, arsenic, phosphorus, fluoride, and other substances less frequently swallowed by accident or with suicidal intent. The truly horrible picture of vomiting, excruciating abdominal cramps, uncontrollable bloody diarrhea, and renal shutdown in the bichloride victim can never be forgotten by one who has looked upon it. Immediate gastric lavage is always indicated in any depressed or psychopathic patient who is found to be suffering from acute abdominal symptoms, in order to wash out as much of the noxious agent as possible before administering an appropriate antidote. The ingestion of arsenic or phosphorus may be followed by rapidly fatal liver necrosis with steadily deepening jaundice. Certain anesthetics, notably chloroform, may cause sufficient liver damage to produce jaundice and occasionally death from acute yellow atrophy of the liver. Toxic hepatitis, which may go on to fatal yellow atrophy, has long been recognized as one of the hazards of antisyphilitic therapy with the organic arsenical compounds. The same may be said for cinchophen, rather widely used as an analgesic in arthritis or gout, and the various sulfonamide drugs. The latter more frequently produce jaundice in the form of an acute hemolytic anemia which is usually reversible if the drug is discontinued in time.

"Painter's colic", characterized by severe abdominal cramps and constipation, has long been known to occur as a manifestation of lead poisoning. A history of excessive exposure to lead along with other manifestations of lead poisoning such as lead-line on the gums, peripheral neuritis, anemia, stippling of the erythrocytes, and increased concentration of lead in the blood or urine as a rule furnish adequate clues to the diagnosis. Excessive exposure to benzol may give rise to anorexia, nausea, and vomiting long before any changes in

the blood picture become apparent. Time does not permit mentioning the many other chemicals and drugs which may produce gastro-intestinal symptoms, but one rather amusing therapeutic paradox is worthy of comment: in order to relieve an acute attack of gout, it is necessary to administer sufficient colchicine in spaced doses to induce abdominal cramps or diarrhea. I have yet to see the gouty victim who did not welcome the onset of cramps or the "trots"!

PULMONARY CONDITIONS

Tuberculosis: The onset of pulmonary tuberculosis is insidious in the majority of cases. The symptoms are frequently so mild that the patient does not think it necessary to consult a physician. When he does, his complaints may be vague and entirely non-pulmonary. He reports that he is feeling below par, his appetite has fallen off, he has indigestion with gas and fullness after meals, and he has lost some weight. If the physical examination is negative (as it often will be), the physician is tempted to dismiss the patient as nervous and run-down, prescribe a tonic, and think no more about it. Further inquiry might have revealed that the patient had a trivial morning cough, felt warm in the afternoon, and broke out in a sweat at night. Whether or not the latter symptoms are elicited, such a patient should have a fluoroscopic examination or preferably an x-ray of his chest, a sputum specimen examined for tubercle bacilli, and should be requested to record his temperature morning and evening for a week or two. If such precautions were taken regularly, many a case of incipient pulmonary tuberculosis would be nipped in the bud.

Pneumonia and Infarction: It is surprising how often early lobar pneumonia may be mistaken for an acute surgical abdominal condition such as cholecystitis or perforated ulcer. Diaphragmatic pleurisy, so common when a lower lung lobe is involved, is responsible for the confusion, since the pain is frequently maximal in the upper abdomen and muscle rigidity may be marked. Vomiting or singultus may further serve to cloud the picture. Physical signs over the chest may be minimal or absent, but fluoroscopy or x-ray will usually reveal central consolidation and spare the patient an unnecessary laparotomy. Pulmonary embolism with lower lobe infarction and diaphragmatic pleurisy may masquerade in a similar manner as an acute abdominal disorder.

Spontaneous Pneumothorax: The sudden severe pain of a spontaneous pneumothorax will occasionally be referred to the abdomen, though more often experienced in the chest, shoulder, or neck. Careful chest examination supplemented with roentgen studies should serve to avoid confusion with any condition below the diaphragm.

Bronchitis: Abdominal pain due to soreness of the abdominal muscles may become pronounced in any patient with a severe or protracted cough such as occurs in an acute bronchitis or atypical pneumonia of the virus type. Coughing is at times severe enough to set up the gag reflex, and thereby induce vomiting as it does in children with whooping-cough.

Hemoptysis vs. Hematemesis: When a patient is brought in to the hospital after an exsanguinating hemorrhage from the mouth and nose, it is not always so easy to determine the source of the bleeding. At least three possible sites must be considered —upper respiratory tract, lung, and esophagus or stomach. Such a patient should be disturbed as little as possible for fear of starting up the bleeding again, and the physician must often rely upon the previous history, examination of the nose, and auscultation of the anterior chest for clues. Thoracic percussion and all but the lightest of abdominal palpation are contraindicated. Although the early treatment of massive hemorrhage, no matter what the source, is fairly stereotyped—complete rest, morphine, and transfusion if necessary—nonetheless it is desirable to distinguish if possible between hematemesis and hemoptysis in order that an appropriate ulcer regime or chest-splinting measures and possibly artificial pneumothorax may be instituted.

Pulmonary Emphysema: Pseudo-enlargement of the liver is frequently encountered in pronounced emphysema of the lungs and is often mistaken for true hepatic enlargement. The widening of the costal angle from the normal acute angle to an obtuse angle (in extreme cases almost 180°) and the downward displacement of the liver by the emphysematous lung are the chief factors in bringing about the apparent enlargement of the liver. Careful percussion of the chest will disclose that in emphysema the upper border of liver dullness is much lower

than normal so that the vertical dimension of the liver is no greater than normal, even though the edge may be felt several centimeters below the right costal margin.

CARDIOVASCULAR DISORDERS

Coronary Disease: "Sudden death from acute indigestion" has long been a favorite phrase among newspaper reporters in explaining the unexpected demise of many a prominent citizen. We now know from post-mortem studies that the majority of these sudden deaths, characterized by severe upper abdominal and low chest pain, vomiting, ashen pallor, collapse and rapid exitus, are actually instances of acute coronary thrombosis. Cases of nonfatal coronary occlusion in which the pain may be referred largely to the upper abdomen frequently create difficult problems in differentiation from acute abdominal conditions such as acute cholecystitis or perforated ulcer. The presence of a mushy first heart sound, pericardial friction rub, cardiac arrhythmia, variations in blood pressure, and—most important of all—electrocardiographic changes will usually serve to establish the diagnosis.

One of the most difficult problems that confronts the internist is the distinction between true angina pectoris and pseudo-angina. In typical cases of true angina, the pain is substernal with radiation down the left arm, is usually brought on by excessive exertion, and disappears after a brief rest period. Response to nitroglycerine is frequently dramatic. However, a number of patients with true angina complain chiefly of substernal oppression or pressure about the heart, particularly after meals or in bed during the night. Such a patient will almost invariably attribute his distress to "gas on the stomach" and may even obtain relief from soda-induced eructation. The electrocardiogram is not necessarily of assistance in the diagnosis of angina pectoris since it may show no abnormalities whatsoever.

A wide variety of conditions may give rise to pseudo-angina; among the more common are pylorospasm, cardiospasm, gas bubble in the stomach as a result of aerophagia, intercostal neuralgia, arthritis of the cervical spine, nervous tension and heart consciousness. A fair conclusion as to the etiology of the precordial discomfort can only be reached in many cases after exhaustive study and careful evaluation of subjective symptoms, objective signs, x-ray and laboratory data. Although it is not infallible, the most useful single differential point in the speaker's experience has been the positive or negative relationship of the precordial discomfort to physical exertion.

Congestive Failure: Right-sided cardiac failure is characterized by enlargement of the liver from chronic passive congestion and engorgement of the splanchnic veins, a situation which may give rise to a variety of gastro-intestinal symptoms such as anorexia, nausea, vomiting, abdominal fullness, excessive gas, ascites, and at times severe pain in the upper abdomen. The pain is most frequently encountered when rapid enlargement of the liver occurs in sudden right-sided failure such as may develop in mitral stenosis, acute rheumatic myocarditis, kyphoskoliosis, or at the onset of auricular fibrillation. The liver is found to be much enlarged, firm, and extremely tender; jaundice may ensue, especially if pulmonary infarcts are concomitantly present. In patients with tricuspid insufficiency expansile pulsation of the liver may be observed.

In badly decompensated patients who have failed to respond well to adequate digitalization, the late onset of nausea and vomiting may raise a fine point in differential diagnosis between digitalis intoxication on the one hand and increasing splanchnic congestion on the other. Serial electrocardiograms may prove helpful and atropine will at times relieve vomiting from over-digitalization. but it is sometimes necessary to discontinue digitalis for several days in order to arrive at the correct interpretation of the gastro-intestinal symptoms.

Pericarditis: Acute pericarditis, either rheumatic, tuberculous, or pyogenic, may start suddenly with severe pain which may be referred to the upper abdomen, giving rise to muscle spasm and rigidity. Cardiac signs and symptoms have been so meager on occasions that exploratory laparotomy has been performed in such cases, only to have a pericardial friction rub or large pericardial effusion develop several days later.

In constrictive pericarditis, the heart is usually small and the heart sounds may be quite innocent. Such a condition should be suspected whenever unexplained hepatomegaly and ascites are observed. A small arterial pulse pressure and marked elevation of the venous pressure complete the clinical

syndrome. Pericardiectomy is often followed by striking relief.

Aneurysms: In contrast to aneurysms of the thoracic aorta which are usually syphilitic, the majority of abdominal aneurysms are said to be arteriosclerotic in type. Abdominal aneurysms may be asymptomatic and discovered accidentally, or they may give rise to deep abdominal pain with associated gastro-intestinal dysfunction. Palpation may reveal a pulsating mass and x-rays frequently disclose calcification in the wall of the aneurysm.

Sudden excruciating abdominal pain in a hypertensive or arteriosclerotic individual may signify the development of a dissecting aneurysm of the aorta, although more commonly the initial pain will be felt in the chest (resembling a coronary occlusion) and subsequently extend down the back and into the abdomen as the dissection proceeds along the course of the aorta. The abdominal pain, tenderness, muscle spasm, shock, and leucocytosis may simulate an acute surgical condition such as the rupture of a hollow viscus.

Splanchnic Arteriosclerosis, Thrombosis, and Embolism: Prominent among the woes to which the elderly arteriosclerotic individual is subject are such gastro-intestinal symptoms as anorexia, fullness and abdominal pain after meals, excessive gas, heartburn, nausea, constipation, and vague continuous abdominal discomfort. Careful abdominal examination and survey of the gall-bladder, stomach, and intestinal tract by roentgenologic techniques will often fail to reveal a structural abnormality. There can be little doubt that arteriosclerosis with splanchnic ischemia is largely responsible for the digestive symptoms. The post-prandial exacerbation of the abdominal pain is readily explainable on the grounds that the narrowed mesenteric arteries are unable to meet the increased demands for blood that are placed upon them at a time when secretion of digestive juices and assimilation of the products of digestion are at a peak. The situation is comparable to ischemia of the heart muscle in patients with coronary disease during excessive physical exertion and might logically be described as "gastro-intestinal angina".

Mesenteric arterial thrombosis is the most serious complication of splanchnic arteriosclerosis, requiring extensive surgical resection of gangrenous bowel if the patient is to have any chance of survival. Recognition of mesenteric thrombosis depends upon a number of rather characteristic findings, including abdominal pain, progressive distention with disappearance of peristalsis, increasing shock, and pronounced leucocytosis. Symptoms of splanchnic ischemia with the various complications thereof are occasionally encountered in young individuals with periarteritis nodosa.

Emboli to branches of the celiac, mesenteric, splenic and renal arteries with subsequent formation of infarcts may give rise to severe abdominal pain, nausea, vomiting, and other digestive symptoms. Common sources of emboli are valvular vegetations in subacute bacterial endocarditis and mural thrombi in patients with auricular fibrillation or coronary disease.

RENAL DISORDERS

One of the most capable gastroenterologists of my acquaintance constantly lays emphasis upon a very sound maxim, namely: whenever you are confronted with peculiar gastro-intestinal complaints for which no basis is found in the alimentary canal, always think of the kidneys as a possible source of the symptoms. *Acute* pyelitis with chill, fever, lateral abdominal pain, tenderness, and leucocytosis may readily be confused with acute cholecystitis or pancreatitis, especially if the ureter is temporarily blocked so that no pus gets through to the bladder urine. The same may be said for the pain, nausea, and vomiting in a *Dietl's crisis* due to *intermittent hydronephrosis* which in turn results from nephroptosis with acute ureteral kinking. Relief from pain in such a crisis is accompanied by a sudden gush of urine as the block is released. Although *ureteral stricture* is considered by some to be a common cause of abdominal pain requiring periodic ureteral dilatation for relief, many are skeptical about the diagnosis of ureteral stricture except in rare instances where the constriction can be clearly demonstrated.

Acute kidney colic due to *impaction of a calculus in the ureter with* increasing back-pressure above gives rise to one of the most severe forms of pain to which man is subject. The pain may be maximal in the costovertebral angle or in the lateral abdomen; tenderness and muscle spasm may be marked, and reflex vomiting is not uncommon. Radiation of the pain into the genitalia or thigh, exacerbation of pain during or after urination, the

finding of red blood cells in the urine, and flat x-ray plate of the abdomen are all helpful in making the diagnosis. Morphine in large doses along with antispasmodic medication and at times general anesthesia are required before relief is experienced. The majority of ureteral calculi will pass spontaneously, but cystoscopic or operative removal is sometimes necessary. Ureteral colic with hematuria (due to deposition of crystals) is one of the more serious complications encountered in therapy with all of the commonly used sulfonamide drugs except sulfanilamide.

Colic, due to clots passing down the ureters, may also be a prominent symptom in *acute hemorrhagic nephritis.* Furthermore, nausea, vomiting, diarrhea, and at times flank pain may be the only symptoms at the onset of acute nephritis. Edema, hypertension, and scanty smoky urine, when present, will facilitate recognition of the renal disease, but final diagnosis will rest upon careful urinalysis with the finding of albuminuria and gross or microscopic hematuria. In *uremia,* no matter what the underlying basis, gastro-intestinal symptoms such as singultus, nausea, vomiting, diarrhea, melena, and abdominal pain may overshadow all other clinical manifestations. A uriniferous breath, pruritus, muscular twitching, characteristic retinopathy, hypertension, urinalysis, and blood chemical findings are all of assistance in recognizing this terminal phase of renal failure.

In the differential diagnosis of abdominal tumors, one must always keep in mind *renal* or *adrenal tumors,* large *hydronephrosis* or *pyonephrosis, perinephric abscess, solitary renal cysts,* and *polycystic kidneys.* The latter are almost invariably bilateral and may be easily identified if multiple large embossings are palpable over the surface. Unilateral enlargement of the kidney, on the other hand, may be readily confused with splenomegaly, hepatomegaly, pancreatic cyst, or retroperitoneal tumors. Intravenous pyelography and cystoscopy furnish valuable information in differential diagnosis.

In view of the risk of overlooking renal pathology as the basis for digestive complaints, the importance of careful urinalysis, urine culture, intravenous pyelography and cystoscopic study as diagnostic procedures cannot be too sharply stressed.

Male Urogenital Disorders

Such conditions as cystitis, prostatitis, seminal vesiculitis, prostatic hypertrophy, calculi and tumors in the male urogenital tract must always be considered in the differential diagnosis of low abdominal and rectal pain in the male. Relation of the symptoms to urination and abnormal urinary findings are often present. Severe hemorrhage may result from erosion of carcinoma of the prostate into the rectum. Careful urologic investigation will usually serve to clarify the situation. A hugely distended bladder may at times be misdiagnosed as ascites and paracentesis performed with unfortunate results. Acute retention, such as occurs in prostatic obstruction, and neurologic bladder in association with spinal cord lesions (tabes, pernicious anemia, multiple sclerosis, transverse myelitis, or tumor) are the common causes for bladder distention. A fluid wave is often elicited, but there should be no shifting dullness in the case of a distended bladder as contrasted with ascites.

Obstetrical and Gynecologic Conditions

Undoubtedly the most common cause of nausea, vomiting, and abdominal enlargement in the mature female is *normal pregnancy.* The vomiting is at times so violent and protracted that interruption of the pregnancy becomes necessary. Sympathetic morning nausea and vomiting in the prospective father during the emetic phase of his wife's pregnancy is rare, to be sure, but more common than is generally appreciated. The various abdominal symptoms that may develop in the course of pregnancy or the complications thereof are innumerable. The wise internist will always consult the attending obstetrician rather than attempt to interpret alone the complaints and vicissitudes of a pregnant lady.

Various gynecologic conditions must always be considered as likely causes of low abdominal pain in the female. Close relationship or limitation of the discomfort to the immediate premenstrual or menstrual period is highly suggestive of a gynecologic basis for the pain. *Dysmenorrhea,* or menstrual cramps, may be sufficiently severe to confine the victim to her bed for a day or two; associated nausea and vomiting may result from reflex pylorospasm. Further causes of low abdominal pain with exacerbations during menstrual periods are *endometriosis, salpingitis,* and other pelvic inflammatory lesions. *Acute right sided salpingitis* may re-

semble acute appendicitis so closely that the surgeon dare not defer laparotomy, even though the presence of leucorrhea and palpation of a mass on pelvic examination tends to support a diagnosis of salpingitis or pyosalpinx. A number of perfectly normal women regularly experience severe sharp pain in one or the other lower quadrant, sometimes associated with nausea, at about the middle of the intermenstrual cycle. This pain, designated as Mittelschmerz, has been attributed to rupture of the mature ovarian follicle.

Among the gynecologic conditions giving rise to lower abdominal pain, fever, nausea, and vomiting which are related to menstruation should be mentioned *twisted pedicle of an ovarian cyst* and *hemorrhage into a fibroid tumor or cyst. Ruptured ectopic pregnancy* represents an acute abdominal emergency characterized by severe abdominal pain which may be referred to the right shoulder (cf. cholecystitis) and rapid development of shock; diagnosis rests upon the history and abdominal findings. Immediate laparotomy is, of course, imperative.

Metabolic and Endocrine Disorders

Diabetes Mellitus: The three "polys"—polyphagia, polydipsia, and polyuria—when found in combination should always suggest the diagnosis of diabetes. Abdominal cramps are also common in unregulated diabetes and, along with muscle spasm and vomiting, may comprise the principal complaints in diabetic acidosis. The abdominal complaints may be so severe as to simulate acute cholecystitis or appendicitis, and only too often an unnecessary laparotomy has been performed when preliminary urine examination for sugar, acetone, and diacetic acid might have revealed the true nature of the situation. Marked hepatomegaly, due to fatty infiltration of the liver, is frequently noted in unregulated diabetics, especially in the severe juvenile form of the disease. These large livers may be extremely tender.

Thyroid Disease: A ravenous appetite characterizes the majority of patients with hyperthyroidism, but in severe cases vomiting and particularly diarrhea may be distressing symptoms contributing to the rapid loss of weight. Hepatosplenomegaly occurs in a fairly large percentage of hyperthyroid patients, especially if the disease is of long standing. In the absence of eyesigns or obvious goiter too many victims of hyperthyroidism are erroneously regarded as nervous dyspeptics, when more careful study would reveal tachycardia, excessive sweating, heat intolerance, tremor, elevated basal metabolism and decreased blood cholesterol level.

The full-blown picture of myxedema will rarely be missed, but less pronounced degrees of hypothyroidism are often difficult to recognize by purely clinical observation. Such patients may complain of fatigue, drowsiness, poor appetite, excessive gas, and sluggish bowels; diagnosis will rest upon the physical findings, an abnormally low basal metabolic rate and an elevated serum cholesterol.

Addison's Disease: Asthenia, hypotension, and increased pigmentation are generally regarded as the cardinal symptoms of suprarenal insufficiency. However, it is important to remember that the hyperpigmentation is not always marked, while vomiting and diarrhea may be the chief complaints in an Addisonian crisis. Diagnosis will depend upon clinical evidences of dehydration, significant decrease in the serum levels for sodium and chloride, and elevation of potassium and non-protein nitrogen Hypoglycemia, although common, is not necessarily present.

Heat Cramps: On a hot summer day it is not uncommon to see a marathon runner, tennis-player, or heavy laborer suddenly collapse with severe abdominal cramps. Abdominal tenderness and muscular rigidity may be pronounced. These "heat cramps" are attributed to excessive loss of salt by perspiration. Treatment consists of the oral or intravenous administration of saline. The wise prospective victim will avert this painful experience by the prophylactic ingestion of enteric-coated salt tablets before and during a period of excessive physical exertion.

Acute Porphyria: Severe abdominal cramps may be the presenting symptom in this rare disorder. In spite of the violent abdominal pain, there is usually no muscle spasm or rigidity. Peripheral neuropathy and encephalopathy, when present, afford additional clues as to the diagnosis. The urine is usually wine-colored, but absolute identification depends upon the spectroscopic demonstration of excessive porphyrin in the urine.

Blood Dyscrasias

Hemolytic Crises: Acute hemolytic crises occur in such blood diseases as *congenital hemolytic*

icterus, sickle cell anemia, pernicious anemia, toxic hemolytic anemias (such as favism or sulfonamide intoxication), and paroxysmal hemoglobinuria. These crises, when accompanied by fever, jaundice, abdominal pain, nausea and vomiting, may readily be confused with an acute intraabdominal infection such as cholecystitis or pylephlebitis. Dark stools rich in stercobilin and increased urobilinuria help distinguish hemolytic jaundice from obstructive jaundice; the van den Bergh test usually gives an indirect reaction in hemolytic jaundice, although a biphasic reaction may be noted in extremely severe hemolysis and free hemoglobin may actually be demonstrable in the serum.

It is a wise plan to set up a fresh blood preparation for sickling in any young colored patient with an attack of severe abdominal pain and vomiting, since such abdominal crises are rather common in sickle cell anemia. Too many of the victims have been unnecessarily exposed to the surgeon's knife when more careful pre-operative observation might have prevented such an exigency.

Pernicious Anemia: Anorexia, nausea, vomiting, and diarrhea are common symptoms in pernicious anemia during relapse. Pallor, glossitis, and neurologic changes should furnish diagnostic clues, but final identification depends upon the finding of a macrocytic anemia and histamine achlorhydria. Mild icterus is frequently present but not necessarily so.

Leukemia: Chronic myeloid and *lymphoid leukemia* are among the causes of extreme hepatosplenomegaly; these leukemias should be easily recognized from the blood count and smear.

Nausea, vomiting, and diarrhea along with hemorrhagic phenomena may be the most pronounced symptoms in *acute leukemia.* Hemorrhages into various abdominal and retroperitoneal organs give rise to puzzling masses and pains. The spleen and liver are not necessarily enlarged early in acute leukemia, but the differential blood count will usually clarify the situation.

Purpuras: Intraabdominal and intravisceral bleeding may be a prominent feature in *thrombocytopenic purpura.* It must be further recalled that if sufficient blood is swallowed (from epistaxis or bleeding gums) the stools may become tarry. A peculiar disorder characterized by abdominal cramps and intestinal bleeding is known as *Henoch's purpura* (non-thrombopenic). This condition along with another rare cause of melena, namely *hereditary telangiectasia,* may come up in the differential diagnosis of bleeding into the intestinal tract.

Banti's Syndrome: Splenomegaly, leucopenia, and microcytic hypochronic anemia comprise the triad of symptoms known as Banti's syndrome. The syndrome is known to occur following splenic vein thrombosis or other processes leading to increased pressure in the splenic vein. Massive hemorrhages from varices in the esophagus or stomach are common and probably account for the anemia. Splenectomy is the treatment of choice and may prove curative provided secondary cirrhosis of the liver has not advanced too far.

TUMORS

Time does not permit a detailed discussion of the many tumors, both primary and secondary, arising outside the gastro-intestinal tract which may give rise to digestive disturbances through pressure or invasion and which may simulate primary tumors of the alimentary canal or its appendages. Metastatic carcinoma or sarcoma from almost any portion of the body may present itself in the abdominal cavity and the various digestive organs, especially the liver. Primary tumors of the kidneys, adrenals, pelvic organs, and retroperitoneal tissues may be difficult to distinguish from carcinoma or other tumors of the stomach, colon, pancreas, etc. The lymphoma group of tumors, including Hodgkin's disease, lymphosarcoma, and follicular lymphoblastoma are important in this respect since they are often highly radiosensitive in contrast to gastro-intestinal carcinomata. If x-ray studies and other tests fail to reveal the nature of a tumor, exploratory laparotomy with biopsy is justified as a diagnostic procedure.

ORGANIC DISEASES OF THE NERVOUS SYSTEM

Infections: Vomiting and abdominal pain are frequent early symptoms in all forms of meningitis, encephalitis, and poliomyelitis. Severe headache, fever, stiff neck, positive Kernig and Brudzinski signs point toward an intracranial or meningeal infection. Accurate diagnosis depends upon cytologic and bacteriologic study of the spinal fluid. Tuberculoma of the brain and brain abscess simulate brain tumor in their manifestations.

Brain Tumor: Tumors of the brain, especially

those in the posterior fossa, often cause a marked increase in intracranial pressure with severe headache, bradycardia projectile vomiting (the vomiting may be preceded by nausea in some instances), drowsiness, stupor, diplopia, and papilledema. Such signs as cranial nerve palsies, Jacksonian epilepsy, paraplegias, hemianopsia, and aphasia may furnish hints as to the localization. An x-ray of the skull (for possible convolutional atrophy or dislocation of the calcified pineal body) and neurosurgical consultation are indicated in any case of unexplained headache and vomiting.

Migraine: One of the worst nuisances to which large numbers of human beings are subject is migraine, characterized by periodic attacks of excruciating headache (often unilateral) and vomiting. A definite aura and transitory scotomata are often noted. The etiology remains obscure and therapy is none too satisfactory, although in a certain proportion of cases an attack may be aborted by early injection of ergotamine. Migraine is frequently mistaken for a primary gastro-intestinal upset and designated a "bilious attack".

Cerebral Vascular Accident: Apoplexy in the form of cerebral hemorrhage and thrombosis or embolism of a cerebral artery can generally be recognized by the sudden onset, evidence of pre-existing vascular disease, headache, and such localizing signs as hemiplegia, aphasia, or hemianopsia. Vomiting is common and often protracted in all types of cerebral vascular accident. If the lesion occurs in a so-called silent area of the brain or in the form of a subarachnoid hemorrhage, diagnosis may be difficult, although the subsequent development of signs of meningeal irritation and the finding of bloody spinal fluid with xanthochromia will soon remove doubt in the case of subarachnoid hemorrhage.

Concussion, Skull Fracture, and Subdural Hematoma: Headache and vomiting are the rule after any severe head injury, whether there be a fracture of the skull or merely a concussion. The late development of headache, stupor, and vomiting—days, weeks, or even months after a head injury—should always suggest the possibility of subdural hematoma.

Herpes Zoster and Intercostal Neuralgia: Herpes zoster, commonly known as "shingles", a peculiar virus infection which may involve any of the peripheral sensory nerves, is characterized by severe pain along the distribution of the affected nerve and a herpetic eruption over the skin area supplied thereby. The pain usually precedes the skin eruption by several days and may persist for weeks or months after the herpetic lesions have disappeared. When the disease involves one or more or the lower thoracic nerves which supply the abdominal wall, the severe pain during the pre-herpetic phase may simulate an acute intraabdominal condition, especially when muscle spasm or reflex vomiting are present. Careful mapping out of the area of tenderness and hyperesthesia should lead one to suspect incipient shingles, since this area will frequently extend around posteriorly all the way to the spine. This observation, along with the demonstration that the pain and tenderness are limited to the abdominal wall, also holds true for other forms of intercostal neuralgia such as may result from compression of sensory nerve roots by cord tumors, ruptured intervertebral discs, collapsed vertebrae (e.g.,Pott's disease), and arthritic excrescences on the vertebrae.

Tabetic Crises: One of the most violent manifestations of syphilis of the central nervous system is the tabetic crisis. At intervals varying from days to months, the tabetic patient may suffer attacks of violent abdominal pain, muscle spasm, and vomiting which may be so protracted as to dehydrate him. Hiccoughs are distressing in certain cases. A tabetic crisis may at first present a knotty problem in differential diagnosis from some acute intraabdominal condition. Useful points leading to recognition of the true state of affairs are a history of untreated or inadequately treated syphilis, lightning pains in the legs, paresthesias about the thorax, ataxia, Argyll-Robertson pupils, areflexia and loss of deep sensation in the legs, and a positive blood serological test. Characteristic spinal fluid changes with positive spinal fluid Wassermann test should remove the last shadow of doubt. One must always recall, however, that there is no rule against a tabetic patient perforating a peptic ulcer!

MISCELLANEOUS

Among the systemic manifestations of certain more serious *dermatological conditions*, such as acute *disseminated lupus erythematosus or erythema multiforme* for example, nausea, vomiting, and di-

arrhea may be prominent features. In the realm of *ophthalmology* vomiting frequently occurs in association with severe pain in and above the affected eye in *acute glaucoma,* a condition which is occasionally confused with migraine; rapid irreversible loss of vision may result if proper measures for relief of the increased intraocular tension are not instituted at once. Turning to the field of *otolaryngology,* one encounters the various affections of the vestibular apparatus such as *seasickness, acute labyrinthitis* (secondary to otitis media or obstruction of Eustachian tube), and *Meniere's syndrome.* Vomiting and vertigo characterize all three of these conditions, while tinnitus and partial deafness are common to the latter two. Only too often a victim of Meniere's syndrome is cursorily dismissed as a "bilious neurotic". An attack of *acute sinusitis* may provoke vomiting in addition to excruciating headache (unilateral), too easily confused with migraine.

Severe abdominal pain with board-like abdominal rigidity is common in *tetanus,* and along with signs of peritoneal irritation may be the principal finding in *arachnoidism* resulting from black-widow spider bite.

Psychosomatic and Psychotic Disorders

Last, but by no means least, is the tremendous group of psychosomatic disorders with predominantly gastrointestinal manifestations such as aerophagia, pylorospasm, spastic colon, mucous colitis, and so forth. The basic "lesion" here is in the psyche, and not in the gastrointestinal tract which merely serves as a convenient and highly "popular" outlet for excessive nervous tension. Anxiety and tension states form perhaps the most common single ailment with which the physician is confronted. The background of the anxiety and tension may be relatively simple or extremely complicated. Such factors as over-concern about health, domestic difficulties, financial worries, frustrated ambitions, excessive pressure of activity, inadequate recreation, resentments toward bosses or in-laws, and perfectionistic attitudes are among the most frequent to be encountered. The differential diagnosis between functional and organic disease of the gastrointestinal tract is extremely important and should include a very thorough survey with x-rays of the gall bladder, stomach, small intestine, and colon, stool examination, gastric analysis, and at times gastroscopy and proctoscopy as well.

A detailed social history may prove invaluable and psychiatric consultation becomes highly desirable in many cases after organic disease has been ruled out. If such a painstaking approach to the problem were carried out more frequently, many a wan and withered young housewife would be spared the loss of her appendix, gall bladder, ovaries and tubes at successive operations only to be left with her same old abdominal pain which could have readily been traced to a spastic colon resulting from her husband's pre-occupation with the blonde next door!

Then we must recall that certain of the more serious psychoses such as true depressions, anorexia nervosa, and schizophrenic states may be characterized by complete loss of appetite, stubborn constipation, and loss of weight so pronounced as to make one suspicious of carcinoma or some other serious organic wasting process.

I hope that these few remarks have served to emphasize the fact that gastrointestinal symptoms may arise from a variety of disorders located outside the gastrointestinal tract. I cannot stress too strongly the importance of studying every patient as a whole rather than focussing our attention on too narrowly a circumscribed area of the patient's body.

1020 St. Paul Street.

VIRGINIA'S NEW CORONER SYSTEM*

CHARLES M. IRVIN, M.D.,
Roanoke, Virginia.

Fellow members of the Roanoke Academy of Medicine: You have honored me by electing me your President for the current year. I am deeply grateful. I promise my best to make this a successful year and feel confident it will, with your help. In electing me, you also obligated me to give a Presidential Address. For this, you will have to pay the penalty. However, I assure you that I have no intention of punishing you too long.

I take the privilege of discussing with you a subject which, for sometime, I have felt might be mutually beneficial. I refer to the office of Coroner. Since the last legislature created a Commission on Post-Mortem Examinations which became effective on October 1, 1946, it is probable that all of you are not entirely familiar with its operation. The new law designates that The Post-Mortem Commission shall consist of five ex officio members as follows:

The Attorney General;
The State Health Commissioner;
The Superintendent of State Police;
The Dean of the School of Medicine of the Medical College of Virginia;
The Dean of the Medical School of the University of Virginia.

This commission is empowered to appoint a Chief Medical Examiner for the State of Virginia who is a skilled pathologist and eligible to be licensed as a doctor of medicine. He is required to take oath and enter into bond upon taking office. He is to devote his entire time to his official duties. He is the executive officer of the Commission but is not a member thereof. His headquarters are located in Richmond, Va., and there he is to set up a central office and laboratory, adequately staffed and physically equipped to properly conduct such pathological, bacteriological and toxicological investigations as may be necessary or proper.

Dr. Herbert S. Breyfogle took office early in January of this year as our first Chief Medical Examiner. During the interim from October 1, 1946, until he took office, Dr. George Z. Williams was acting Chief Medical Examiner. There is every reason to believe that when all arrangements are completed a distinct improvement in accurate statistics will result as well as making available to the medical profession complicated toxicological examinations which are not now freely available. Delay has been unavoidable, but this month a full time toxicologist is to take up his duties under Dr. Breyfogle and permanent quarters for the laboratory are now being remodeled. Under the new law all costs of the operation of the office of Chief Medical Examiner including autopsies are paid by the State. Before, these were paid by the county or city in which the investigations or examinations were made. While this change has transferred to the State, from the localities, quite a sum of money which has to be carried as a new item in the State Budget, Dr. Breyfogle tells me that he is having difficulty in obtaining sufficient funds to properly run his office. This can probably be remedied at the next meeting of the legislature. My impression of Dr. Breyfogle, after two conferences with him as well as instructions issued by him, is that he is a competent man, well trained in pathology, particularly in medico-legal matters, and will in time set up a system of which we can be proud. He deserves your support and I solicit such support for him.

The Chief Medical Examiner is the adviser and issues instructions to the coroners of the State who are appointed by the Commission on Post-Mortem Examinations. Before, they were appointed by the Court having jurisdiction. The Chief Medical Examiner has the power to appoint coroners between meetings of The Commission—to fill vacancies temporarily in the event they occur for any reason, or if in any case the coroner for personal interest is unable to serve. In such event, coroners are required to notify the Chief Medical Examiner of his unavailability.

The law requires that physicians, law enforcement officers, funeral directors, embalmers, or any person having knowledge of certain deaths shall notify the coroner. Such deaths include specifically: (1) Any death by violence, accidental, suicidal or homicidal. (2) Sudden deaths of persons in apparent

*Address of the President before the Roanoke Academy of Medicine at its meeting on October 3, 1947.

health. (3) Deaths without medical attendance, including stillbirths attended by a midwife. (4) Deaths by unusual or unnatural means, including exposure to electricity, heat or cold, starvation, neglect, poisoning or intoxication, burning, drowning, smothering, etc., whether accidental, suicidal or homicidal. (5) Deaths occurring in prison. (6) Where a dead body is to be cremated (this is a new provision.)

Another change is that all coroners shall be licensed to practice medicine. A recent interpretation of the law from the office of Chief Medical Examiner states: Physicians should report to the coroner for investigation: Deaths within 24 hours after first medical attendance, and deaths during medical procedures to determine the coroner's right to take charge of the body. Also, a physician in attendance at the time of death is required to sign the death certificate by law, irrespective of an investigation by the coroner and regardless of the cause of death and time in attendance. The new law specifically states that the coroner of the county or city where such deaths occur shall be notified and shall take charge of the body. This differs from the old law as amended in 1934 which designated jurisdiction of the coroner as the place where injury or cause of death originated.

When the coroner is notified of a death coming in the above category, it is mandatory upon him to take charge of the body, make inquiry regarding the cause of death, reduce his findings to writing and make report to the Chief Medical Examiner. Copies also are to be given to the Commonwealth's Attorney in those cases where indicated. Until authorized by the coroner the body cannot be embalmed or otherwise disturbed. This does not mean a body cannot be moved to a funeral home or other place designated by the coroner. The coroner can call upon all law enforcement officers to investigate any particular phase of his investigation and also persons especially trained in any particular field whose knowledge would be helpful in determining the cause of death.

The vast majority of cases investigated by the coroner do not involve criminal action; only about 5% to 10% are such, and here I want to emphasize that an investigation by a coroner does not often, and seldom should, carry with it any embarrassment to relatives of the deceased and certainly not to members of our honorable profession. On the other hand, facts gained often are of extreme public interest and save time and prevent civil litigations as well as expedite settlement in cases involving double indemnity in insurance and those coming under workman compensation laws. The public welfare is also protected.

If, after investigation, the cause of death is not clear and an autopsy will throw light on the particular case, a coroner has the independent right to order an autopsy. This can be done by the coroner if he is designated by the Chief Medical Examiner to perform autopsies, or he can order this to be done by a pathologist so designated. The new law is broad in scope with regard to autopsies performed in the interest of the State. In deciding whether one should be done, certain questions usually guide: (1) Will an autopsy prove essential in distinguishing accident, suicide, homicide and disease? (2) Will it prove essential in the interest of civil as well as criminal justice, or in the interest of public health and welfare—toward protection of persons unjustly accused of criminal acts; toward disclosure of medical, chemical, electrical, industrial and other hazards to health and welfare? (3) Will an autopsy prove essential in disclosing contributory causes as injuries, intoxication and disease? The coroner is required to make a complete report to the Chief Medical Examiner in all cases, and he can send for examination, to the Chief Medical Examiner, all tissues, body fluids or other material indicated for examination at the central laboratory. Instructions for the proper collection, preservation and delivery to this laboratory have been issued by the Chief Medical Examiner. As soon as possible it is the plan to run routine blood alcohols as well as barbiturates on all auto fatalities, whether the deceased be either driver or pedestrian. Later it is probable that routine tests for other drugs will be added. I predict that, in time, this will provide us with statistical data which should throw valuable light on our present alarming and horrible death toll on our streets and highways.

Over the years I have enjoyed fine cooperation of the profession and my work as coroner has been made easier, as well as profitable to me, in adding to my knowledge by contacts and advice from many of you gentlemen. I appreciate all of this. There have been cases, however, which were proper cases for investigation, which have not been reported to

me. I am sure that in each case this was due to over-sight or misunderstanding. To cite a few might be helpful.

A man was operated on for diffuse peritonitis from ruptured appendix. He had a very stormy convalescence. Among other complications, he had bilateral thrombo phlebitis. After weeks, he was able to return home and was ambulatory in his room. One morning his wife served him breakfast and he ate this while sitting up. She removed his tray and returned from carrying this out and found him dead. This was a sudden and unexpected death of a person apparently in health or well on the road to health. His death was certified as due to coronary thrombosis, with attendance covering the entire length of his illness, and no mention of appendicitis, operation or complications. I feel sure that this was not a case that in any way involved suspicion, but if, weeks or even months later, someone had raised the question of his death, for any reason, all that I could do would have been to report to the Commonwealth's Attorney, who could request the Court to order exhumation of the body. The law requires that the coroner follow such a course.

Another instance was a recent death in a hospital of a patient who was unconscious when admitted and died without regaining consciousness. There were burns of the lips and mucous membranes and history of suicide. Permission was given by the next of kin for autopsy and this was performed by one of the residents. The body was turned over to an undertaker and embalmed. I was not notified. Both the doctor and the undertaker were in error, as each is required to notify the coroner of such a death, and neither is permitted to in any way disturb the body without the consent of the coroner.

I cite the example of a death occuring recently, according to what I read in the newspapers. A man struck by an automobile in an adjoining county died from injuries received in this way in a local hospital. The papers gave an account of his funeral and also of the trial of the driver of the car striking him. To date, I have not been notified of death of this person as required by the new law.

I could give other examples, but these should suffice. For years, I have requested all local undertakers to call me in all cases in which any doubt existed. They have done this in most instances, and, in quite a number of these, I have found that the cases were not proper ones for the coroner.

In closing, I want to make just a few suggestions. There is, every year, quite a turnover in our hospitals of internes and residents. These should be acquainted with the proper procedure to follow in deaths in which the coroner is to be notified. Too, they should be on the alert to get as much history as possible in suspected poisoning, as well as properly preserving any material which could be analyzed. In wounds, notes at the time, and before debridement or suturing could be very important, since they might have to testify. Especially important is the point of entrance and exit in penetrating wounds, noting powder burns or any foreign material. In suspected poisoning, the type of poisoning and its mode of entrance is important. As you know, blood, stomach contents, urine or any of the viscera might be necessary for analysis. The stomach contents alone are not sufficient to establish death from certain poisons and absorption must be proved. Many poisons cannot be satisfactorily demonstrated after embalming, and in chronic poisoning samples of bone, hair and finger nails are necessary at times. Remember that a coroner in the State of Virginia is a State Official and his duties are specified by law. Your continued cooperation will be appreciated. I thank you.

31 Wellington Avenue, South.

MANAGEMENT OF GASTRO-INTESTINAL BLEEDING*

GUY W. HORSLEY, M.D.,
Richmond, Virginia.

The management of gastro-intestinal bleeding is dependent entirely upon the correct diagnosis as to its site and cause. The gastro-intestinal tract may be divided into five sections and the chief causes of bleeding enumerated as follows: (1) esophagus—diverticulum, ulcer, varices, and cancer; (2) stomach—ulcer (peptic or syphilitic), gastritis, benign polyp, and malignancy; (3) duodenum—ulcer, diverticulum, polyp; (4) jejunum and ileum—diverticulum, polyp, and malignancy; (5) colon and rectum—ulceration, polyp, diverticulum, malignancy, and hemorrhoids. These remarks will be limited mainly to the treatment of peptic ulcers and bleeding from the large bowel, as these account for possibly 75% of all gastro-intestinal bleeding.

One of the most difficult types of bleeding to diagnose and treat is that from esophageal varices. In these cases the patient is usually in poor condition and the diagnosis is frequently made with some uncertainty. When there is no contra-indication, injection of the varices with a sclerosing solution gives excellent results and in careful hands does not seem to carry a great hazard. In patients who are good surgical risks, it is probably better to dissect out the varicose veins about the terminal portion of the esophagus and to ligate the coronary vessels at the gastro-esophageal junction. In peptic ulcers the treatment of bleeding depends almost entirely upon the age and the history of the patient. If the patient is under forty-five years of age and has no history of previous bleeding, the treatment should be medical, but if the bleeding is recurrent and persistent, or the patient is over forty-five years old, the treatment should be directed toward proper preparation of the patient for operation. When the patient has been vomiting large quantities of blood and appears pale, weak and apprehensive, the family usually expects some immediate heroic measures to be carried out. It is important to reassure the patient and the family, to keep the patient quiet and the well meaning friends and relatives out of the room. Mild sedation should be started, with the patient kept strictly in bed. The now popular early ambulation in these cases should not be allowed until the bleeding has been well controlled for several days. It is inadvisable to attempt to return the blood pressure to normal immediately after a hemorrhage, but a systolic pressure of 100 is satisfactory, as one higher than this would tend toward recurrence of the bleeding. With this in view, supportive measures are given which include infusions, transfusions, oxygen and sedation. As soon as possible, all such patients should be moved to a hospital, since it is impossible to give proper treatment to these cases in the home. The patient may be allowed small amounts of water by mouth, but it is recommended that feedings or medications by mouth be started only after the first 24 hours. Because these patients may have some blood dyscrasia which has not been completely worked out in the first few hours of the bleeding, it is advisable to start giving vitamin K and large doses of vitamin C. If the blood pressure is below 100, a transfusion should be given. When the transfusion is not immediately available, the blood pressure may be maintained temporarily by infusions of dextrose in Ringer's or saline and plasma until proper blood matching has been completed and a blood transfusion started.

If the bleeding continues, as it will in a small percentage of cases, it is advisable to do a gastric lavage, using large amounts of warm saline solution; for if there is gastric retention, a collapse of the stomach reduces the distention and likewise the bleeding. After 12 to 24 hours without feeding, feedings may be started in small amounts, using the regular peptic ulcer diet. It is important to keep up the high intake of vitamin C and to give a transfusion of 500 c.c. of blood every day until the blood picture returns to normal or the hemoglobin reaches 13.5 gms., r.b.c. 4,000,000, hematocrit 40 or more, and plasma protein 6.3 grams. When the blood pressure is slightly elevated, it is essential that the transfusion be given slowly, and should there be a sudden rise in this pressure, the transfusion should be discontinued. The feedings may be gradually increased and the patient then put on general medical treatment.

If the patient is 45 years of age or older, or there

*Read at the Symposium on Therapy, February 18-19, 1947, Medical College of Virginia, Richmond, Virginia.

is a history of recurrent bleeding, as soon as the patient's condition permits, he should be operated upon and the ulcer or other pathology present removed. Vagotomy with the excision of the ulcer is inadvisable in a patient who has been bleeding recently, because vagotomy tends toward dilatation of the stomach and duodenum, and may prolong the bleeding. As far as possible in all cases the ulcer should be excised, no matter what type of resection is done. When the ulcer is of the penetrating type and cannot be excised, all vessels in its vicinity should be ligated and divided. A gastro-intestinal x-ray study should be made before any operative procedure is carried out, as frequently, particularly in elderly patients, it will be found that the bleeding is coming from varices and is secondary to another condition.

Bleeding from the large bowel is frequently noted. In such cases a digital or proctoscopic examination should be made. When the bleeding is from hemorrhoids, this can be easily seen by anoscopic and proctoscopic examination and controlled either by packing or operation. If hemorrhoids are the cause of the bleeding, injections of a sclerosing solution may be all that is necessary, but, on the other hand, if blood is seen through the proctoscope to be in the upper part of the bowel, it may be coming from an ulcerative colitis or a malignant growth. In such cases the bleeding is not severe nor apt to produce shock as bleeding from the first part of the intestinal tract. As soon as the patient's condition permits, x-ray examination of the colon with contrast media should be done and the treatment directed toward the bleeding area. If it is found to be due to an ulcerative colitis, the treatment is almost entirely medical; but if it is due to a neoplasm, either benign or malignant, the patient should be prepared for resection and the neoplasm removed.

Journal Debunks Seven Day "Cure".

"A simple cure for chronic alcoholism, seven day, seven week, or even seven year, does not exist," according to an editorial in the November 1 issue of *The Journal of the American Medical Association.*

"Since the publication of an article, 'Seven Day Cure for Alcoholism,' in *Magazine Digest,*" the editorial says, "*The Journal* has been receiving inquiries from both physicians and the public requesting further information and confirmation of the efficacy of the treatment proposed. . . .The treatment described is a withdrawal method, using slowly decreasing doses of alcohol intravenously over a period of six to seven days. The patients treated by the authors were those with acute alcoholic dementia, hallucinosis and delirium tremens. These patients were treated equally as successfully by the intravenous method as others have been who took decreasing doses by mouth along with other adjuvant treatment, but no more so. . . .The authors admit that this method does not produce a permanent cure of chronic alcoholism. The patients may well return to the abuse of alcohol, as they frequently do following other types of withdrawal treatment. The personality factors that cause maladjustment to environment must be determined and controlled. . . . Aside from its usefulness in withdrawal treatment, the technic seems about as illogical as the sugar treatment of diabetes or the morphine treatment of the opium habit."

HOPEFUL ASPECTS OF CARDIOVASCULAR DISEASE*

R. EARLE GLENDY, M.D.,
Roanoke, Virginia.

Introduction—During the past twenty-five years the most important advances in our knowledge of cardiovascular disease have taken place, and we are now living in an age of ever increasing newer concepts and discoveries which often have actually turned back or prevented the ravages of cardiac or vascular conditions once considered entirely hopeless. This reversibility of heart disease offers a note of optimism so essential in the management of cardiac patients, to both the doctor and the unfortunate victim. Dr. Paul White[1] has said that medical history should be appreciated as the foundation of our medical instruction and the base on which our future progress must be built. It is fitting, therefore, that we mention first some of the historical aspects of this subject.

Prior to the 16th Century heart disease, as we now think of it, was unknown. The only knowledge of the heart was concerned with trauma, and damage to the heart from any cause was tantamount to death. Then with the advent of more frequent post-mortem examinations it became apparent that the heart and blood vessels were often the seat of a variety of pathological conditions. By the turn of the 18th Century heart disease was regarded by Corvisart as more common than all other ills put together, and it has certainly maintained this position even to a greater degree in modern times as life expectancy has advanced, sparing many who might have succumbed to one of the diseases of early life to suffer degenerative vascular disease. During the 19th Century many pathological abnormalities of the cardiovascular system were classically described but there was little or no clinical correlation made. Even 30 years ago heart disease was regarded as for the most part final and fatal, and the attitude was one of resignation to the arrival of the evil day, meanwhile making the unfortunate patient as comfortable as possible. During the past 25 years there have been many exciting developments in cardiology with a change in point of view concerning the hopelessness of cardiac disability.

*Delivered before the Sullivan-Johnson County Medical Society, Bristol, Tenn., March 5, 1947.

THYROID HEART DISEASE

In 1924 Burton Hamilton[2] observed and wrote about heart failure of the congestive type due to hyperthyroidism, and, on his advice, Lahey[3] and others began to restore these patients to good health by *sub-total thyroidectomy*. As a result, thyrotoxic heart disease is rarely seen nowadays. Similarly, at about the same time, myxedema heart was brought under control by the administration of thyroid extract, reversing dramatically the cardiac enlargement and electrocardiographic abnormalities brought about by this condition and restoring the functional capacity of the heart. Thus, less than 25 years ago, began the amazing developments in the diagnosis and management of cardiovascular disease, many of which we now take for granted. Since those early days every single variety of heart disease has—in some degree, at least—manifested its preventability or reversibility either spontaneously or under medical or surgical treatment. The latest to enter the fold are congenital and hypertensive heart disease.

CHRONIC CONSTRICTIVE PERICARDITIS

In 1928 Churchill (with Dr. Paul D. White as his medical advisor)[4] resected the pericardium of a girl 19 years old who was a hopeless invalid because of severe congestion due to chronic constrictive pericarditis. She was restored to good health within a few weeks and has remained so. She was the first of a large series of cures in about 50 per cent of the cases so operated in this country following the initial suggestion by DeLorme in 1898 and the pioneer surgery done in this field in Germany some fifteen years later.

RHEUMATIC HEART DISEASE

With rheumatic heart disease the reversibility has been largely spontaneous, yet it remains to be seen whether saturation with salicylates orally or intravenously may play a role in turning back rheumatic infection.

Our knowledge of the natural history of rheumatic infection has increased vastly and from this we have in all likelihood prevented much disability that in previous years would have occurred because of our ignorance and errors of omission and com-

mission. Not too long ago rheumatic fever was regarded as a more or less self-limited condition and with the subsidence of the acute manifestations was treated accordingly. Actually we know now that rheumatic infection can be one of the most chronic of all diseases. It may grumble along unnoticed by the child or parents for weeks or months. Even the physician, unless he is wary and mindful of the possibility, may overlook a low grade infection unless he resorts to such laboratory tests as the white blood count, sedimentation rate and electrocardiogram for confirmation. Our newer knowledge of rheumatic infection has modified the treatment so that now the rheumatic child should have prolonged sanitorium-like care with frequent follow-ups until all evidence of infection as determined clinically and in the laboratory, has cleared.

Since returning to Virginia in 1945, I have been impressed with the incidence of both acute rheumatic infection and chronic rheumatic valvular disease in private and clinic practice. It is timely that the rheumatic fever program for the State of Virginia has been extended to the western portion of the State within the past year, and clinics are now being held in Roanoke and Harrisonburg from which much valuable data will accumulate concerning the magnitude of the problem. My guess is that we will find a surprisingly high incidence. One other point which has impressed me in comparing rheumatic infection as I observed it in the New England states with that seen in this locality is the relative virulence. The infections I have seen here seem milder and might be more easily overlooked.

It is not within the scope of this discussion to say much about heart murmurs, but one very significant fact should be called to your attention concerning mid-diastolic murmurs heard at the cardiac apex in children with active rheumatic infection. At one time such murmurs were attributed to early mitral valve damage. Actually the murmurs may be due to left ventricular dilatation from the acute myocardial rheumatism which in turn produces mitral regurgitation with relative mitral stenosis. When the infection subsides, allowing the heart muscle to resume its former tone, the murmurs may and often do disappear entirely. It is wise, therefore, to defer final judgment on the extent of valvular damage from rheumatic infection until the acute phase has past.

ANEURYSMS

The surgical attack on both saccular and arteriovenous aneurysms is well known to you, and I mention them next in chronological order.

Excision or wiring of saccular aneurysms often not only abolished the hazard of the local lesion on contiguous parts but also of rupture, and we now appreciate the fact that thrombosis that occasionally occurs in aneurysmal sacs may spontaneously reduce the hazards.

The obliteration of arteriovenous communications, congenital or acquired, is often a practical necessity to relieve the strain on the heart which has resulted sometimes in considerable enlargement secondary to increased blood flow. This procedure assumed major proportions during the recent war when, in the interests of standardizing procedure under expert supervision, a center for handling such cases was established at the Ashford General Hospital at White Sulphur Springs, West Virginia, where approximately 450 cases had been done shortly before the hospital was closed. Where serious heart strain has resulted, the closure of an arteriovenous communication may be a life-saving measure. If closed early, strain on the heart may be prevented.

CORONARY HEART DISEASE

Coronary heart disease is perhaps the most important consideration of all in this chronology. It is almost unbelievable, despite all the work and writings of the pathologists during the 19th Century on the structural changes in the heart associated with serious coronary artery disease, including myocardial infarction, new and old, that so little was known clinically of coronary heart disease prior to Herrick's classical paper in 1912.[6] Before Herrick, it was currently believed that occlusion of a large coronary artery meant early death, and for sometime after Herrick's description of coronary thrombosis a long survival was not thought possible.

During the past 10 to 12 years, with a growing electrocardiographic and clinical experience and especially the clinico-pathological observations of Blumgart and Schlesinger,[7] we have become aware of the large number of cases of coronary heart disease that do well for many years after acute occlusion. The answer to this is the development, mostly spontaneous, of a collateral coronary circulation which maintains an adequate circulation to all parts of the myocardium. So we have learned that the

coronary arteries under these circumstances are no longer end arteries, though functionally they may have started as such.

Thus *Coronary Artery Disease* is not to be confused with *Coronary Heart Disease* because, with the development of a collateral circulation, even complete slow occlusion of a major coronary trunk may occur without clinical evidence of heart disease due to this spontaneous adjustment.

The various measures, medical and surgical, calculated to stimulate the development of this collateral circulation have not been very successful or practical. Such procedures as omentopexy, as suggested by O'Shaughnessy,[8] and transplantation of the pectoral muscles, as suggested by Beck,[9] have not afforded sufficiently gratifying results to warrant their wide use—not to mention the practical considerations. Nature seems to do the best job, and we should remember this while not omitting our efforts at therapy.

The recent use of anticoagulants, such as dicumarol, in the management of acute coronary thrombosis is thought by some to be of value in preventing the extension of the thrombus and in diminishing embolic complications, but here again we encounter practical considerations in the use of a dangerous drug requiring frequent laboratory determinations for the control of dosage. Nevertheless, it is one additional weapon that can be used in our efforts to turn back the ravages of coronary disease and its complications.

Some 15 years ago the outlook for the patient who presented himself with angina pectoris was four to five years. Follow-up studies by White, Bland, and Miskall[10] on hundreds of cases has changed this concept, the more recent analysis showing that the average expectation is actually doubled, being 9 to 10 years. Furthermore, they have observed that angina pectoris of effort or decubitus not infrequently subsides spontaneously with the development of an adequate collateral circulation. Severe intractable anginal pain has been controlled in many instances by alcohol injection of the sympathetic ganglia. This, of course, is purely a symptomatic measure but may be a necessary one to provide the patient with some degree of comfort. Currently it is not in very wide use.

Acute Cor Pulmonale

Ten years ago McGinn and White[11] described a new clinical entity which they called acute cor pulmonale, a condition manifested by dilatation of the right heart chambers and pulmonary artery secondary to high pressure in the pulmonary arterial system from sudden embolism. If not immediately fatal, the course of this condition may be critical for a matter of hours or days, but usually clears spontaneously unless further embolism occurs. It is such recurrence that is our duty to prevent and out of the efforts to do so has come much of our present knowledge concerning thrombo-embolic disease.

Thrombo-Embolic Disease

The menace of thrombo-phlebitis and/or phlebothrombosis in the production of fatal pulmonary embolism is almost a daily pre-occupation with many of us, but is no longer regarded as an unavoidable surgical accident. In recent years the advocates of numerous prophylactic and definitive measures in the control of such catastrophes have shown beyond reasonable question that many lives have been spared following a variety of treatments directed at the prevention of or extension of venous thrombosis.

Before referring to some of these measures in further detail, two concepts that are now pretty generally held should be reemphasized, namely, that (1) thrombo-embolic disease is just as likely to occur in the bed-ridden medical patient as in the post-operative surgical patient, and (2) although outspoken thrombotic occlusion of the leg veins carries the threat of many disagreeable after-effects, there is at this stage little danger of embolism. It is the early quiet stage, referred to by Ochsner[12] as "phlebo-thrombosis" upon which we must concentrate if tragedy is to be avoided.

It is beyond the scope of this discussion to give a complete account of the treatment of thrombo-embolic disease, or to bring you the final word on what constitutes the ideal treatment. Prophylactic and definitive treatment include such measures as deep breathing exercises, administration of thyroid extract, avoidance of the sitting or reclining positions in bed, elevation of the foot of the bed, voluntary exercise of the muscles of the extremities, anti-coagulants (heparin and dicumarol) vein interruption, and lumbar sympathetic nerve block. The present writings on this subject are somewhat controversial, and one can obtain encouraging evidence

in favor of one or another form of therapy according to different workers in this field. Homans,[13] in his most recent summary of the subject, has this to say: "I recognize that the present trend is toward a greater use of the anti-coagulants. How far this tendency will go I am unable to say. For the moment I have offered a reasonable scheme for making use of one method or the other, observing that in some circumstances there is a choice between them. On behalf of surgery I beg that it be employed only when it is fully understood what the particular operative procedure may be expected to accomplish. I urge that the anti-coagulants be used only when accurate routine blood studies are available. Undoubtedly, as experience widens, more definite indications for the use of operative or chemical methods in preventing and treating thrombosis in the veins of the lower limbs will be available."

Irrespective of the merits of one form of therapy as against another, the figures all show a decreased incidence of fatal and non-fatal pulmonary embolism in clinical reports from the large medical centers where observers are alert to the presence of thrombo-embolic disease. We should all become more alert to this important problem and when a patient presents himself with a history of repeated attacks of pleuritic pain, among other things, we should look for signs of venous thrombosis in the legs. It will be found in proportion to the diligence with which it is sought.

Miscellaneous Reversible Cardiovascular States

Within the past ten years a variety of other cardiovascular conditions have shown their reversibility either spontaneously or from active therapy with the subsidence of the underlying disease. These include the cardiac dilatation and failure that occurs in *acute hemorrhagic nephritis*,[14] in *avitaminosis of the B_1 type*,[15] and in *severe anemia*.[16] The once dreaded *purulent pericarditis* which before the advent of the sulfa drugs and penicillin was almost invariably fatal now may be and often is treated successfully, combining drug therapy with pericardostomy.

The story of *digitalis* in the management of congestive failure is an old one and needs no emphasis except to call your attention to the increasing use of the purified crystalline digitalis preparations, such as digitoxin (NNR), which are marketed under a variety of trade names. These preparations are reputed to be as quickly and totally absorbed when given by mouth as when given intravenously and attended by less toxicity than the whole leaf preparations. We should remember, however, that there is no such thing as a "nontoxic" digitalis. The toxic effects of digitalis are largely extensions of the therapeutic actions of the drug and if a preparation will not cause digitalis poisoning when given in excess then it will not exert any therapeutic effect. The crystalline preparations of digitalis, in my experience, have been as effective in the control of congestive failure as the whole leaf, and certainly attended by fewer gastro-intestinal symptoms. I have found them eminently satisfactory in very elderly patients who, as a rule, do not tolerate digitalis too well. There are other drugs that deserve special mention in the treatment of heart failure when digitalis has been ineffective in the control or elimination of pulmonary vascular congestion and edema, namely, the mercurial diuretics (mercuzanthin and salyrgan-theophylline). The importance of using these preparations as an adjuvant to digitalis cannot be too strongly urged. When frank edema and ascites are present, the indications are obvious, but the results of diuresis for the relief of dyspnea from pulmonary vascular engorgement when no evident edema is present are nothing short of miraculous at times. It is under such circumstances that we often neglect this important adjunct of treatment.

In line with the newer concepts[17] of the mechanism of heart failure and edema, we no longer restrict the fluid intake in edematous cardiac patients. It has been shown that in congestive failure the increased fluid in the extravascular spaces which is responsible for clinical edema is held there by an excess of sodium retained in the tissue spaces because of diminished blood flow through the kidneys and increased resorption by the kidney tubules. Therefore, the rational basis for treating edema is to rid the tissues of this excess of sodium. We approach this problem by giving diets low in sodium (sometimes with an acid ash) and promoting the excretion of sodium by acidification of the urine with ammonium chloride and the use of mercurial diuretics. When there is no longer an excess of sodium in the tissues, water can be taken as freely as desired without danger of its accumulation as edema. It is well to remember that simply the restriction of

salt (sodium chloride) alone is not adequate to insure a low sodium intake. Some patients will never touch salt, but if not forewarned will use soda bicarbonate freely for indigestion, eat soda crackers, or ingest other substances high in sodium content.

Subacute Bacterial Endocarditis

In 1939 a combined study[18] of 250 cases of *subacute bacterial endocarditis* occurring in various Boston hospitals over the preceding 12 years revealed only one recovery, and he died of another illness one year later. Then, eight years ago the sulfonamides came into general use, and the percentage of cures began to rise from less than 1 per cent to perhaps 5 per cent or more. With the subsequent use of massive doses of penicillin the percentage of cures has steadily risen, offering new hope and marking another milestone in the control of a highly fatal and dreaded disease. The use of heparin or dicumarol with penicillin in the treatment of subacute bacterial endocarditis is not only unnecessary, but contraindicated.[19]

Congenital Heart Disease

Nine years ago (1938) Robert Gross, of Boston, successfully ligated a *patent ductus arteriosus* in a girl aged 7½ years.[20] Since then many such cases have been operated upon by thoracic surgeons all over the country with gratifying results.[21] These results include, first, the relief of strain on both ventricles which is the cause of cardiac disability in this condition, and, second, the prevention or cure of complicating streptococcus viridans endarteritis with or without sulfa drugs or penicillin. In this operation we have the first successful demonstration of the reversibility of congenital cardio-vascular defects except for the extremely rare instances of spontaneous recovery where thrombosis has resulted in closure of a patent ductus arteriosus. White[1] mentions two instances in which this occurred. This operation is not to be entered into lightly, but when one compares the risk of a greatly foreshortened life from early heart failure or a streptococcus viridans endarteritis with the low operative mortality and the splendid results that have been attained thus far, then the risk involved seems small as against the possible benefits to be derived. Porter[22] in a recent report on 16 cases in which ligation of the patent ductus arteriosus was done by Dr. Bigger, of Richmond, Virginia, urges that the operation be done when possible before the patient begins to show signs of considerable myocardial strain as manifested by cardiac hypertrophy and increasing dimunition of cardiac reserve. It is difficult to say with certainty just what is the optimal age for operation because the degree of strain is more or less directly proportional to the degree of patency. In generalizing, Dr. Porter suggests 8 to 10 years of age as perhaps the optimal time, certainly no later than age 15. The oldest patient in his series, who also happens to be a patient of mine, was a woman aged 31, whose existence was rapidly approaching that of cardiac invalidism, but who is now, following her operation in August 1946, in good health and able to indulge in physical activities that were impossible for some years before operation.

More recently (1945) Gross[23] has developed an operation which has been successful in the relief of coarctation of the aorta. He advises excision of the stenotic area with direct anastamosis of the proximal and distal portions of the aorta. Experience with this operation is as yet quite limited, but it offers another hopeful means of combating the hazards attending this condition which include (1) aneurysmal dilatation above or below the area of coarctation; (2) dissecting aneurysm; (3) rupture of the aorta; (4) streptococcus viridans endarteritis at the site of the lesion, and (5) severe hypertension in the upper portion of the body.

Two years ago Blalock and Taussig[24] reported an ingenious procedure for short circuiting the circulation in cases of congenital heart disease with considerable degrees of pulmonary stenosis by anastamosing the subclavian or innominate artery to the pulmonary artery. Their results have been most encouraging, but since they are replacing a very serious malformation with a less serious one, it is not to be expected that entirely normal conditions will be attained.

They say that "abnormalities which should be benefited by this operation are the tetralogy of Fallot, pulmonary atresia with or without dextroposition of the aorta and with or without defective development of the right ventricle, a truncus arteriosus with bronchial arteries, and a single ventricle with a rudimentary outlet chamber in which the pulmonary artery is diminutive in size. (The operation is indicated only when there is clinical and radiologic evidence of a decrease in the pulmonary blood flow.) The operation is not indicated in cases of complete transposition of the great vessels or in

the so-called 'tetralogy of Fallot of the Eiesenmenger type,' and probably not in aortic atresia. It must be emphasized that the operation should not be performed when studies reveal a prominent pulmonary conus or pulsation at the hili of the lungs".

Although their successful cases have shown marked improvement in the degree of cyanosis, in exercise tolerance, and in their general condition, complications have been quite numerous, but one might anticipate this in view of the greater disturbance in the physiology of the circulation than one finds, as a rule, in patent ductus arteriosus.

Hypertensive Heart Disease

Several years ago Dr. Paul White,[25] in interpreting the routine electrocardiograms at the Massachusetts General Hospital, began to notice improvement in the appearance of the abnormal electrocardiograms of many of the hypertensive cases and at times a complete return to normal. On inquiry, he discovered that the cases showing these striking changes were invariably those on whom Smithwick had performed his technique of dorso-lumbar splanchnic resection. In the meantime a large series of carefully studied cases in which splanchnicectomy has been performed have in many instances shown (1) a decrease in heart size, (2) disappearance of symptoms and signs of left ventricular weakness, such as dyspnea, gallop rhythm, accentuation of the pulmonic second sound, and pulmonary rales, (3) recession of eye ground changes, and (4) improvement in kidney function. In so far as I can discover no other form of therapy for hypertension has ever been able to alleviate or turn back the cardiovascular changes of this disease to such a degree.

This operation in its early development showed little promise, but now with the more extensive denervation both above and below the diaphragm (usually from D-8 to L-2 inclusive and always the great splanchnic nerve) the success in appreciably influencing the blood pressure and thereby relieving the strain on the heart has been noteworthy and the results are holding in some instances now for a matter of years. In general the results have been more encouraging in women than in men.

Though ideally the operation is carried out before too much damage to the heart and arteries has occurred, the very finding of wear and tear changes of a hypertensive nature is actually an indication rather than a contraindication for the procedure provided the operative criteria are otherwise established. It is beyond the realm of this discussion to enumerate the criteria now currently in use upon which the advisability of operation is determined. They can be found in Smithwick's[26] reports on the subject. In so far as preliminary pre-operative studies are concerned, they can be made for the most part by the patient's local physician, and, in view of crowded conditions in the medical centers where this operation is being performed, I would urge that this be done more frequently. Thus the patient will be saved some time and expense, the period of hospitalization away from home will be reduced, and the number who need the operation can be materially increased.

Smithwick's original policy was to confine the procedure more or less to younger individuals with, as yet, relatively little cardiovascular damage. However, the pressure from all quarters for possible relief from the effects of hypertension has necessitated its use in an increasing number of individuals in the fifth and even the sixth decades of life, and in some who were distinctly not good risks. Others[27] are more enthusiastic about the operation as a palliative measure and suggest its wider use in advanced cases and in more elderly patients. It would be deplorable if this operation, which has helped so many, should fall into disrepute through frequent failures and the complications that so often arise in poor risk patients.

Without detracting in any way from the encouraging results of splanchnicectomy, I would like to sound a note of caution about recommending the procedure too lightly. The patient must be hospitalized for a minimum of 30 days, often longer, for the two stage operation. Convalescence may be prolonged and tedious, extending over a period of several months (3 to 6), and with changes in posture attended by acceleration of the pulse, dizziness, faintness, and other manifestations of vasomotor instability during which time it is necessary to wear abdominal supports and bandages on the legs. Patients must also be warned of the possibility of painful scars and neuritis as post-operative complications. One of my patients who was operated upon in October, 1946, often rebukes me for not having warned her of all the distressing after-effects despite the fact that she is now satisfied with the result of her sympathectomy.

Before leaving the subject of hypertension some

mention should be made of the recent use of tetraethylammonium bromide in peripheral vascular disease wherein its efficacy has been demonstrated in producing blockade of the autonomic ganglia to a degree comparable to that obtained following the usually accepted methods of producing a sympathetic block (including paravertebral sympathetic block, local nerve block, spinal anesthesia and sympathectomy). It has proved satisfactory in producing both improvement in circulation and in the amelioration of pain of circulatory origin. Its use in hypertension is attended by a fall in blood pressure and we may look forward to further reports in the near future concerning its use both as a therapeutic test agent and perhaps in actual treatment of hypertensive states. The drug is not yet available for general use.

Psychosomatic Concepts of Cardiovascular Disease

Under the new heading of psychosomatic medicine, we now describe an approach to the patient which in former years came under the vague designation of the "art of medicine" or just plain "common sense", and was typified by the relationship of the old family doctor to his patients who were usually his intimate friends, and whose emotional and physical peculiarities were familiar to him from the cradle to the grave.

Almost every day in practice we see patients who, because of chest pain, shortness of breath of the sighing type, palpitation, knowledge of an insignificant heart murmur, fatigue, or vasomotor instability, are suffering from an anxiety state about the heart, which, though it has no "organic" basis in fact may be totally incapacitating. If we are to help these patients to understand the emotional background of illness, we must do more than slap them on the back and admonish them to "forget it". A careful history and physical examination supplemented by whatever other studies are indicated will frequently establish the background of psychotherapy and, if the disorder is mild, simple reassurance may be all that is necessary. Once you take away the fear of heart disease, the patient is afforded a great measure of relief and can live a little easier. Anxiety in relation to the normal heart is very important, but even more so in relation to actual heart disease because the same burden of anxiety that is well tolerated for years in those with normal hearts will hasten a breakdown in the patient with heart disease. The watchword, therefore, in the management of the cardiac patient with a superimposed psychoneurosis of the anxiety type is an incorrigible optimism which gives hope and encouragement as to the future. This attitude must also be instilled into attendants, who, if gloomy and apprehensive in the presence of the patient, may do immeasurable harm. The experience of all of you, I am sure, has included many instances in which a little extra time spent in reassurance and friendly interest has lifted a load of despair that has arisen from fear, anxiety, and lack of understanding by the patient of some insignificant symptom or sign.

Summary

Thus, in reviewing most of the outstanding advances in the management of cardiovascular disease that have occurred during the past twenty-five years, it is apparent that the cardiac invalidism so hopelessly pronounced and accepted in former years can now in many instances be prevented entirely or modified to allow reasonable every day activity to the individual with heart disease. New drugs and surgical techniques have been responsible for a large measure of this accomplishment, but we must remember that nature does much of the repair work and recognize this as an advance in our knowledge and understanding of cardiovascular disease.

It is surprising that with the small per capita funds available in this country for the study of cardiovascular disease that so much has been accomplished. The stimulation of a wider public interest such as has been shown in infantile paralysis and cancer is necessary to bring home the magnitude of the problems that still lie ahead. Most important of these have to do with the underlying causes of heart disease, such as rheumatic infection, hypertension, and presenile coronary artery disease. Since our ultimate goal in cardiology, as in all fields of medicine, is prevention, it is obvious that our main efforts must be directed along these lines. It is encouraging that legislation is now being considered in Congress to provide funds for the more extensive study of our greatest killer, heart disease.

Bibliography

1. White, Paul D.: The Reversibility of Heart Disease, *Illinois M. J.* **86**, July, 1944.
2. Hamilton, B. E.: Heart Failure of the Congestive Type Caused by Hyperthyroidism, *Jour. A.M.A.* **83**:405, 1924.

3. Lahey, F. H.: End-Results in Thyrocardiacs, *Ann. Surg.* **90**:750, 1929.
4. White, P. D., and Churchill, E. D.: The Relief of Obstruction to the Circulation in a Case of Chronic Constrictive Pericarditis (Concretio Cordis), *New England Jour. Med.* **202**:165, 1930.
White, P.D.: Chronic Constrictive Pericarditis (Pick's Disease) Treated by Pericardial Resection, *Lancet II;* 539, 597, 1935.
5. Biand, E. F., White, P. D., and Jones, T. D.: The Development of Mitral Stenosis in Young People with a Discussion of the Frequent Misinterpretation of Middiastolic Murmur at the Cardiac Apex, *Am. Heart Jour.* **10**:995, 1935.
6. Herrick, J. B.: Clinical Features of Sudden Obstruction of the Coronary Arteries, *Jour. A.M.A.* **59**: 2015, 1912.
7. Blumgart, H. L., Schlesinger, M. J., and Co-workers: Studies on the Relation of the Clinical Manifestations of Angina Pectoris, Coronary Thrombosis, and Myocardial Infarction to the Pathologic Findings, *Am Heart J.* **19**:1, 1940.
8. O'Shaughnessy, Laurence: Surgical Treatment of Cardiac Ischemia, *Lancet* **1**:185, 1937.
9. Beck, C. S.: Development of New Blood Supply to Heart by Operation, *Ann. Surg.* **102**:801, 1935.
10. White, P. D., Bland, E. F., and Miskall, E. W.: The Prognosis of Angina Pectoris—A Long Time Follow-up of 497 Cases Including a Note on 75 Additional Cases of Angina Pectoris Decubitus, *Jour. A.M.A.* **123**:801, 1943.
11. McGinn, S., and White, P. D.: Acute Cor Pulmonale Resulting from Pulmonary Embolism—Its Clinical Recognition, *Jour. A.M.A.* **104**:1473, 1935.
12. Ochsner, A.: Intravenous Clotting, *Surgery* **17**:240, 1945.
13. Homans, John: Venous Thrombosis and Pulmonary Embolism, *New England Jour. Med.* **236**:196, 1947.
14. Whitehill, M. R., Longcope, W. T., and Williams, R.: The Occurrence and Significance of Myocardial Failure in Acute Hemorrhagic Nephritis, *Bull. Johns Hopkins Hosp.* **64**:83, 1939.
15. Weiss, S., and Wilkins, R. W.: The Nature of the Cardiovascular Disturbances in Nutritional Deficiency States (Beriberi), *Ann. Int. Med.* **11**:104, 1937.
16. Porter, W. B.: Heart Changes and Physiological Adjustments in Hookworm Anemia, *Am. Heart Jour.* **13**:550, 1937.
17. Merrill, A. J.: Edema and Decreased Renal Blood Flow in Patients with Chronic Congestive Heart Failure: Evidence of "Forward Failure" as the Primary Cause of Edema, *J. Clin. Investigation* **25**:398, 1946.
18. Leach, C. E., Faulkner, J. M., Duncan, C. N., McGinn, S., Porter, R. R., and White, P. D.: Chemotherapy and Heparin in Subacute Bacterial Endocarditis, *Jour. A.M.A.* **117**:1345, 1941.
19. Hunter, Thomas H.: Treatment of Subacute Bacterial Endocarditis, *Mod. Concepts Cardiovascular Dis.* **15**, No. 8, August, 1946.
20. Gross, R. E., and Hubbard, J. P.: Surgical Ligation of a Patent Ductus Arteriosus—Report of First Successful Case. *Jour. A.M.A.* **112**:729, 1939.
21. Shapiro, Morse J.: Recent Advances in Surgical Treatment of Patent Ductus Arteriosus. *Mod. Concepts Cardiovascular Dis.* **16**, No. 1, January, 1947.
22. Porter, W. B.: Personal Communication, 1947.
23. Gross, R. E., and Hufnagel, C. A.: Coarctation of the Aorta—Experimental Studies Regarding Its Surgical Correction, *New England Jour. Med.* **233**: 287, 1945.
24. Blalock, A., and Taussig, H. B.: The Surgical Treatment of Malformations of the Heart. *Jour. A.M.A.* **128**:189, 1945.
25. (a) Evans, E., Mathews, M., and White, P. D.: The Electrocardiogram in Hypertension I—Its Description, *Am. Heart J.* **30**:140, 1945.
(b) White, P. D., Smithwick, R. H., Mathews, M. W., and Evans, E.: The Electrocardiogram in Hypertension II—The Effect of Radical Lumbodorsal Sympathectomy (Preliminary Report), *Am. Heart J.* **30**:165, 1945.
(c) Canabal, E. J., Warneford-Thomson, H. F., and White, P. D.: The Electrocardiogram in Hypertension III—Electrocardiograms of Hypertensive Patients Followed for a Long Time without Splanchnic Resection in Comparison with Those in Patients Who Had Had Splanchnic Resection. *Am. Heart J.* **30**:189, 1945.
26. Smithwick, R. H.: Surgical Treatment of Hypertension; Effect of Radical (Lumbodorsal) Splanchnicectomy in Hypertensive State of 156 Patients Followed One to Five Years, *Arch. Surg.* **49**:180, 1944; Surgical Treatment of Hypertension; Some Circumstances Under Which Lumbodorsal Splanchnicectomy Appeals to be Inadvisable in Hypertensive Patients, *New York State J. Med.* **44**:2693, 1944.
27. Poindexter, Charles A.: Personal Communication, 1946.
28. Berry, R. L., Campbell, K. N., Lyons, R. H., Moe, G. K., and Sutler, M. R.: The Use of Tetraethylammonium in Peripheral Vascular Disease and Causalgic States, *Surgery* **20**:525, 1946.

820 S. Jefferson Street.

RHABDOMYOSARCOMA: CASE REPORT WITH RESPONSE TO ROENTGEN THERAPY

STUART J. EISENBERG, M.D.,
Fellow in Radiology, Medical College of Virginia,
Richmond, Virginia.

The scant literature on rhabdomyosarcoma offers little conclusive information concerning the degree of radiosensitivity of that tumor. General statements are made by Ewing and by Khoury and Speer (1944) that, although radioresistance is the rule, cellular tumors of undifferentiated type may be radiosensitive especially in children. Mandeville (1943) reports a two year arrest in a 21 year old man of axillary rhabdomyosarcoma with surgical excision and x-ray therapy. However, this patient is known to have developed recurrence of the tumor at a later date with a survival of six years. Frank, Enfield, and Miller (1936) report a three year survival of rhabdomyosarcoma of the neck, with radical excision and radiation therapy. Gilbert (1934) states that deep x-ray therapy may control the tumor temporarily, especially in patients over 40 years of age, and reports several patients so controlled for from two to six years. Viets and Wittenberg (1945) report a case of rhabdomyosarcoma involving the spinal column and cord in which 1200 r over the region in divided doses relieved the pain for one month.

Hunt (1943), reporting on rhabdomyosarcoma of the urinary tract, states, "Indeed, in one of the reported cases as well as in the second case presented here, roentgen therapy seems to have stimulated the growth of the tumor. Since the evidence is so strongly against these tumors being radiosensitive, one must conclude that roentgen therapy is definitely contraindicated. Such therapy has only increased the patient's symptoms."

Smith and Mintz (1938) also conclude, "The meager evidence at hand tends to prove that rhabdomyosarcoma is very radioresistant."

Because of the few conflicting reports showing the response to radiation of rhabdomyosarcoma, the following case is considered worthy of presentation.

A 13 year old male negro was admitted to the hospital in March, 1944, with complaint of pain in the left hip since a fall two months previously. Clinical and roentgen diagnosis of slipped femoral epiphysis had been made. An open reduction and bone graft were done and a cast applied. Some pain persisted in the left hip, and radiogram on January 1, 1945, showed atrophy of the head of the femur and poor union of the graft.

In March, 1945, the patient complained of marked pain in the left hip of one week's duration. He was admitted to the hospital again for incision and drainage of what was thought to be an abscess in that region. Biopsy taken at the time of the incision and drainage showed rhabdomyosarcoma. A roentgenogram of the chest was negative for metastases. In April, 1945, x-ray therapy was given to the left hip through two 20 x 20 cm. portals with total air dose of 2400 r, in 200 r daily doses. The factors used were 200 Kv., 20 ma., 50 cm. distance, Thoreus filter, HVL 1.0 mm. Cu.

In March, 1946, the patient was again admitted to the hospital with complaints of gradually progressing pain over the anterior chest, dyspnea, orthopnea and ankle edema. He was in poor clinical condition with hemoglobin of 58 per cent. A chest film showed extensive bilateral pulmonary and mediastinal metastases with pleural fluid (Fig. 1). Thoracentesis was performed and 500 cc. of blood tinged fluid was aspirated. Blood transfusions and other supportive measures were instituted.

Fig. 1.—Roentgenogram of chest showing metastases before radiation therapy.

Radiation therapy was given to the chest through 20 x 20 cm. anterior and posterior portals with total of 1000 r in air to each portal. The same factors as given above were used. The situation was considered hopeless, with no immediate improvement in the almost moribund condition of the patient, and arrangements were made through Social Service for terminal care.

Contact was lost with the patient until August, 1946, when he returned to the tumor clinic. At that time he looked remarkably well, and had been going to school and playing as normally as his one crutch and slightly shortened left leg would allow. There were no complaints. Roentgenogram of the chest showed remarkable clearing of the lungs with only two small nodules, one cm. and four cm. in diameter, remaining at the right base. This unusual response of a radioresistant tumor led to critical reexamination of the biopsy by five experienced pathologists, with the idea that the previous diagnosis had been in error. However, all five concurred in their impression that this tumor was a rather typical rhabdomyosarcoma.

Further deep x-ray therapy was given to the chest with totals of 650 r in air anteriorly and 450 r posteriorly. One month later another series of 600 r anteriorly and 400 r posteriorly was given.

In October and November, 1946, radiographic examination of the chest showed no marked change and the patient remained clinically well. At one of his regular tumor clinic visits in November, routine physical examination showed a left lower quadrant mass, firm and non-tender, fixed to the rectus muscle. He was admitted to the hospital where the mass was removed from its attachment near the lower end of the left rectus sheath. Examination of microscopic sections by a number of pathologists verified the diagnosis of rhabdomyosarcoma. One observer favored fibrosarcoma but the overwhelming opinion was in favor of the former.

Fig. 2.—Roentgenogram of chest showing remarkable clearing after radiation therapy.

Roentgenograms of chest and hip at this time showed no evidence of progress of the tumor growth, with only a single nodule, 3.5 cm. in diameter, at the right cardio-phrenic angle. The patient was discharged in clinically good condition.

Chest film in February, 1947, again showed clear lungs except for the single unchanged nodule at the right base (Fig. 2). The patient was still in good condition, and had no complaints.

SUMMARY

The scant literature on rhabdomyosarcoma is reviewed. A case of rhabdomyosarcoma of the hip is presented with extensive metastases to mediastinum and throughout both lungs, which regressed markedly after deep x-ray therapy to the chest. There was associated clinical improvement from an almost moribund condition to one of normal appearance and activity. Satisfactory condition was maintained despite removal of a similar tumor mass from the lower abdominal wall. Deep x-ray therapy was given to the primary site with no evidence of further growth of the tumor in this region. The patient is alive and feels well almost three years after his first admission to the hospital, and almost two years after the diagnosis was established.

REFERENCES

Ewing, James: Neoplastic Diseases—A Treatise on Tumors. Fourth Edition. W. B. Saunders Company, Philadelphia, Pa.

Frank, L. W., Enfield, C. D., and Miller, A. J.: *Ann. Surg.* **104**:431, 1936.

Gilbert, J. B.: *Jour. Urol.* **32**:63-77, 1934.

Hunt, R. W.: *New York State Jour. of Med.* **43**:513-517, 1943.

Khoury, E. N., and Speer, F. D.: *Jour. Urol.* **51**:505-516, 1944.

Mandeville, F. B.: *Jour. So. Carolina Med. Assoc.* **39**: 59-62, 1943.

Mandeville, F. B.: Personal Communication.

Smith, G. G., and Mintz, E. R.: Tr. Am. A. Gen. Urin. Surg. **31**:351-362, 1938.

Viets, H. R., and Wittenberg, M. H.: *Arch. Path.* **40**: 179-180, 1945.

THE USE OF ANTI-CONVULSIVE DRUGS*

R. FINLEY GAYLE, JR., M.D.,
Professor of Neuropsychiatry,
and
THOMAS F. COATES, M.D.,
Resident Physician, Department of Neuropsychiatry,
Medical College of Virginia, Richmond.

The treatment of convulsive seizures has been a problem since the dawn of history. The majority of convulsive seizures with which the physician has to deal are of unknown etiology, the largest group being the various types of idiopathic epilepsy. The treatment, therefore, is symptomatic. Of the many forms of symptomatic treatments, drug therapy is the most effective.

The history of modern pharmacologic treatment of convulsions began about the middle of the last century with the discovery of the action of bromide on the central nervous system. It has been said that Sir Charles Locock first recommended bromide therapy for epilepsy in 1857 on the basis that since many cases of epilepsy were thought to be caused by onanism and that since bromide was known to act as an anaphrodisiac it should logically follow that bromide would help epilepsy! Bromides remained the physicians' mainstay in the effort to control convulsive seizures until 1912 when phenobarbital was introduced by Hauptmann, for the symptomatic treatment of epilepsy. It is the only member of the barbiturate group effective for this purpose (control of epileptic seizures). The next great advantage in anti-convulsive drug therapy came with the introduction of dilantin sodium (sodium diphenyl hydantoinate) by Merritt and Putnam in 1938. In recent years several other drugs such as dl glutamic acid hydrochloride, tridione, sodium diphenylene hydantoin and mesantoin have been reported as valuable in the treatment of convulsive seizures.

Before proceeding with the discussion of the individual drugs used in the control of epileptic seizures, perhaps we should mention the problem of the control of convulsions occurring in such conditions as: tetanus, eclampsia, status epilepticus, general paresis, cerebral hemorrhage, cocaine, strychnine and picrotoxin poisoning. The barbiturates are extremely valuable in this field. The barbiturates with short or moderate duration of action are preferable and they are given either intravenously or intramuscularly. The amount given is more important than the particular drug selected. Only enough should be given to control the seizures because when the convulsions stop the patient may sink into a deep coma if more drug than necessary has been used. Usual doses for intravenous administration are sodium phenobarbital 0.3 to 0.7 gram (5 to 11 grains), the drug of choice; sodium pentobarbital 0.3 to 0.5 gram (5 to 8 grains); and sodium amytal 0.4 to 0.8 gram (6 to 12 grains). The injection should be made slowly (not over 30 to 70 mgm.—½ to 1 grain per minute). The drug may be repeated as indicated by the patient's condition and response to therapy. In status epilepticus if all efforts to control convulsions by intravenous medication fails, resort to ether may be necessary.

Perhaps the two most useful drugs at the present time in the treatment of epilepsy are phenobarbital and dilantin sodium. Phenobarbital is given in doses varying from ½ to 1½ grains administered sufficiently often to control seizures. Frequently failure to control seizures with it is due to insufficient dosage. Epileptics can often tolerate doses up to 9 or 10 grains daily. Among the toxic reactions to the drug are dermatitis, apathy, drowsiness, sluggishness, mental dullness, irritability and asthenia. Drowsiness, asthenia and dullness are probably the most disturbing of the side effects. However, when we consider its widespread use, phenobarbital causes toxic reactions in surprisingly few patients. Reports on its efficacy are hard to evaluate and range from 30 to 80 per cent. Phenobarbital often produces its best results when combined with dilantin sodium or bromides. Amphetamine sulfate (benzedrine sulfate) or dexedrine in doses of 5 or 10 mgm. twice daily are often helpful to combat the drowsiness caused by phenobarbital.

Dilantin sodium (sodium diphenyl hydantoinate) has the marked advantage that it does not produce a sedative effect and its users are free from drowsiness and let-down feeling which so often follows the

*Read in the Symposium on Therapy Sponsored by the Department of Continuation Education, Medical College of Virginia, February 19, 1947.

prolonged use of phenobarbital and bromides. It is most effective when given in doses just short of the toxic dosage for the individual case. This dosage must be worked out individually. It is given in doses of 1½ or 3 grains usually, 3 or 4 times daily, and at times larger doses may be given. Children may be started on 1½ grains once or twice daily and the subsequent dosage adjusted according to therapeutic response. Very young children are started on ½ grain twice daily. It should be given at times of day when the seizures are most frequent. If dilantin is being given a patient in place of phenobarbital or bromides the latter drugs should be withdrawn gradually over a period of 3 or 4 days in order to give the dilantin time to take effect. As a matter of fact the abrupt withdrawal of phenobarbital at any time is apt to result in convulsions in an epileptic. It is estimated that convulsions are relieved in about 60 per cent of patients treated with dilantin. It is frequently most effective when used in combination with phenobarbital or bromides, preferably phenobarbital. It has been found that in such cases full doses of each drug are usually necessary. Dilantin's greatest field of usefulness is in the control of grand mal and psychic equivalent attacks. It is less effective in petit mal. Toxic symptoms that have been reported are: gastric distress, vertigo, staxia, tremor, blurred vision, diplopia, nausea, irritability, hypertrophy of the gums, dermatitis and purpura. Side reactions usually disappear promptly when the drug is discontinued. Nausea and other gastric distresses may be avoided if dilantin is given at meal time. If on renewal the same symptoms appear, the drug should be permanently discontinued. At the neuropsychiatric out-patient clinic of the Medical College of Virginia where dilantin has been used for approximately 7 years, a few toxic reactions other than mild hypertrophy of the gums and skin rashes have been noted.

Bromides are still useful in some cases but have been largely replaced by other drugs because of their greater tendency to side effects than in most of the other drugs used in the treatment of epilepsy. Some cases respond to bromides where other drugs fail. They are also valuable as a change when tolerance has developed to other drugs. Bromide may be used in form of sodium, potassium or strontium bromide or combination of them. The dosage varies from 10 to 15 grains three times a day—larger doses may be necessary. A blood level of from 150 to 200 mgm. is usually necessary to keep a patient free of attacks. As high as 71.7 per cent remissions of attacks have been reported. Toxic effects include skin rash, drowsiness, mental symptoms of depression, delirium, delusions, hallucinations, etc. Bromides are contra-indicated in patients with tuberculosis for the same reason that iodides are contra-indicated (cause resolution of healing lesions, sometimes resulting in reactivation of a dormant lesion). They should be used cautiously if at all in individuals with advanced arteriosclerosis, debilitation, diarrhea, vomiting, poor chloride intake, poor renal function, and in certain psychiatric disorders, particularly depression. They should not be used unless the patient can be followed closely. There are certain people who are apparently susceptible to small doses of bromides and it is not infrequent to see a confused, mildly disoriented individual, exhibiting psychic manifestations, in whom a high bromide blood level is determined as the actual factor of the psychotic episode. When bromides are taken over a long period of time the blood bromide level should be watched carefully.

dl-Glutamic acid hydrochloride has been reported as valuable in treatment of petit mal seizures. It is given on the basis that petit mal attacks respond favorably to fasting and the ketogenic diet and represents an effort to produce acidosis without the difficulties of a ketogenic diet. It is given orally in doses of 4 gms. three times a day which maintains the pH. of the urine at about 5.0. In our hands glutamic acid has not been a very successful drug in the control of petit mal. The large amount of drug which has to be given is a difficult problem in itself, particularly with children, and we have not felt that our results have been worthwhile. Therefore, glutamic acid has not been used for sometime.

Tridione (trimethyloxazolidine dione) has recently been found to be very effective in the treatment of petit mal attacks. The dosage is from 15 to 30 grains daily, given in 5 grain capsules. Lennox reported (the *American Journal of Psychiatry*, 103; No. 2, Sept. 1946) 84 per cent of 150 patients improve. Of these 33 per cent were free of seizures, 30 per cent had ¾ less seizures and 21 per cent were moderately improved. However, the side effects are more frequent and sometimes more severe than those encountered with phenobarbital or dilantin. They are skin lesions, photophobia, irritability, anorexia, and

aplastic anemia (3 cases have been reported). The blood of patients taking tridione should be examined at frequent intervals to determine the platelet count and the leukocyte and differential counts. We recently reported the death of a young child with aplastic anemia following the use of tridione and diphenylene hydantoin. The article will very likely appear in print in the near future.

Any discussion of the anti-convulsant drugs would be incomplete without mentioning some of the dilantin-like drugs recently developed and now being tried clinically. Outstanding among these drugs are methyl phenyl ethyl hydantoin (mesantoin). Methyl phenyl ethyl hydantoin and phenobarbital (hydantal), and sodium diphenylene hydantoin.

Mesantoin in a clinical trial by two observers seemed of little or no value in petit mal attacks but in grand mal or psychomotor seizures it was effective and superior to dilantin in about ⅓ of the cases. The main benefits of mesantoin seem to be a reduction in the frequency of seizures and an absence of the unpleasant side effects of dilantin. It did, however, produce its own side reactions and the most frequent of these was a generalized measles-like rash. Other side effects infrequently seen were excessive fatigue, drowsiness, gastric symptoms and ataxia.

The development of *hydantal* was prompted by the successful use of dilantin and phenobarbital but it was hoped that this combination would be equally effective but less toxic. Loscalzo (*The Journal of Nervous and Mental Diseases,* 101; No. 6, June 1946) reported a series of 17 patients treated with hydantal for a period of 16 months. Grand mal seizures were reduced approximately 60 per cent and improved emotional status was noted consistently. Its effect on petit mal attacks was parallel with that of dilantin. The incidence of side effects as compared with dilantin was strikingly low. Mild gum hyperplasia occurred in but two cases. No other toxic effects were observed. Further studies are indicated.

Sodium diphenylene hydantoin is not yet on the market but Fabing, Gayle, and Hawkins, after clinical trial, feel that its advantages so far noted justify further intensive study. Factors brought forth by their study were (1) The dosage is approximately 4 times that of dilantin; (2) dermatologic reactions occurred in about the same proportion with both drugs but the other toxic reactions sometimes seen with dilantin were not noted; (3) Sodium diphenylene could be used as an adjuvant to dilantin especially when it was found that a patient could not tolerate a therapeutic level of dilantin. In these cases the dosage of dilantin was slowly reduced and the remainder of the anti-convulsant required was supplemented with the diphenylene. All reactions observed with dilantin disappeared on this regime. One definite advantage of this new drug over dilantin is that it is definitely less toxic and, therefore, larger doses may be used. A further study will be made with this drug before it is likely to appear on the market.

In conclusion perhaps it is in order to point out a few general principles which should be followed in the drug therapy of convulsive seizures:

(1) All drugs now in use may produce toxic side-reactions. Therefore, all patients on drugs must be followed closely.

(2) Patients often develop a tolerance to the most effective drugs. Consequently it is frequently necessary to change the dosage or to substitute other drugs. Substitution of one drug for another should always be done gradually to prevent the precipitation of attacks by too rapid withdrawal.

(3) The time of the administration of the drugs should be determined by the time when seizures are most frequent. For nocturnal attacks the drug should be given chiefly late in the day and at bed-time.

(4) Drugs when given should be given in sufficiently large doses to control the seizures if possible. The tolerance of the epileptic is usually high.

(5) When a patient is under control the drug should be continued indefinitely unless good reasons are found for changing it. These include tolerance, the development of side reactions or freedom from seizures. Dosage should not be decreased until the patient has been free from seizures for a long period probably at least two years. Then it may be decreased cautiously and gradually.

BRUCELLOSIS (UNDULANT FEVER)

G. R. TUREMAN, JR., M.D.,
Richmond, Virginia.

The knowledge of brucellosis has been acquired rather slowly during the past half century. The erroneous idea of its low incidence seems to account for the lack of attention accorded it until recent years. With more accurate methods of diagnosis the disease is being recognized by more clinicians and proven cases are increasing daily. The work of numerous reliable investigators has contributed unmistakable evidence that the disease is far more prevalent than the reports of many State Health Departments would indicate. Many patients with unconfirmed tuberculous, typhoidal, and malarious-like illnesses have later been shown to be suffering from brucellosis. More recent findings among investigators reveal that the chronic form is more common than the acute disease and it is now becoming recognized universally as a major health problem.

Brucellosis is common in man in areas where the infection is common in the domestic animals. The most common source of the disease is in unpasteurized dairy products, although other means of infection are common. It is frequently seen in farmers and veterinarians. Many laboratory workers have contracted the disease while working with brucella.[1] Carpenter and Boak[2] isolated brucella abortus by guinea pig inoculation from the purulent exudate of a horse with fistulous withers. Two children who had contact with the horse developed the disease with severe manifestations. The disease is generally more prevalent in dairy than in beef cattle. Tests carried out on 11,858,859 cattle revealed that 38 per cent of the herds and 8 per cent of the cattle were infected.[3]

Man may be infected by strains of three types of brucella: 1. Br. abortus (bovine), 2. Br. melitensis (goat), 3. Br. suis (swine). Cattle may become infected with brucella suis, the more virulent strain for man. In fact, cross infection of all these animals has been shown. Direct transmission between human beings has not been demonstrated. Evidence, however, that maternal infection can be transmitted to the child in utero or in the process of delivery has been shown.[4] The infective power of the organism is clearly demonstrated by an epidemic of Br. melitensis infection, in which approximately eighty cases and one death resulted.[5] The organisms are resistant to refrigeration. They have been found alive in milk after ten days and in butter after four months' refrigeration. Direct sunlight kills the organisms.

The incubation period may vary between wide limits. Findings of wide variation are reported among numerous investigators and frequently the actual onset of illness cannot be established. The incubation period seems to vary with the source and amount of infection acquired. Initial infection may occur months before clinical manifestations appear. The symptomatology is so variable that one has only to see a few cases or review case histories of the disease to become thoroughly convinced that a concise outline of its clinical manifestations is impossible. This is especially true in the chronic type of the disease.

The work of Dr. Harris,[6] published in 1941, emphasized chronic brucellosis to be far more common than ever supposed. He maintains the disease can and does simulate practically every other disease and rivals syphilis in its protean manifestations.

The disease has been divided into several types by some clinicians but for practical purposes it seems necessary to divide it into only the acute and chronic types since many patients will not fit into any fixed clinical picture.

The acute form adheres more closely to the textbook descriptions of the illness and probably accounts for the fact a large majority of cases recognized in the early history of the disease were of this type. The onset of the symptoms is frequently gradual, but sudden onset with chills and high fever is not uncommon. The fever may reach 103 to 105 while the appearance and degree of prostration of the patient is very deceiving. It is not unusual to see patients walking around or working when the temperature is elevated to 103. Dr. Harris[6] reported that several of his patients elected to come to his office with elevations of temperature ranging from 103° to 105° F. The patient may be afebrile in the morning with only mild manifesta-

tions followed by gradual elevation of temperature and intensification of symptoms in the afternoon and evening. Drenching night sweats with either frank chills or chilly sensations are very common. These episodes are not always confined to night, as I have found from personal experience. Following such defervescence a temporary sense of well being is experienced. The peculiar fetid odor of the perspiration has been noted by so many patients and physicians that it would not be far wrong to say it is characteristic of the disease. This chain of symptoms may occur daily, resulting in weakness, loss of weight, secondary anemia, irritability and frequently mental depression. The symptoms may persist two to three weeks or continue for an indefinite period of several months or years especially when it lapses into the chronic stage. Dr. Harris has observed the chronic stage may follow the acute or it may precede it by weeks, months, or years. Some patients may apparently recover completely following one attack or this may be followed by one or several episodes with complete or partial remissions between.

Frequently there is an absence of physical findings. This is especially true in the chronic form. An enlarged spleen and enlargement or tenderness of liver should always bring to mind the possibility of brucellosis in the differential diagnosis. Involvement of the lymph nodes with slight to moderate enlargement of the axillary, cervical, and inguinal nodes is not uncommon. These findings are more apt to be found in an acute case as the course progresses and are seldom encountered in chronic cases in which there is no history of an acute episode. An interesting case illustrating many characteristics already mentioned is that of a twenty-eight year old officer in the Army Air Corps who gave me the following history.

"The first of January, this year, I knew something was wrong because I felt tired all the time. I didn't feel like doing a thing but just kept pushing myself." He felt fairly well in the morning and thought perhaps this was due to working hard. It was not unusual to put in as many as eighteen hours a day. By the end of January he began to feel chilly all the time and said, "I just couldn't get enough clothes to keep warm." The first week in February he developed a sore throat with fever 101°. He was told he had "grippe", and after ten days was discharged afebrile from the hospital. Returning to duty he felt worse, and his appetite became poor. He continued to experiance chilly sensations but had no frank chills. He states, "I thought I was weak from having the 'grippe' and didn't bother to report on sick call." On his way over-seas in March he had another sore throat with elevation of temperature—101°—which returned to normal in forty-eight hours. After arrival over-seas he continued to feel tired and weak. He related how he would limp around a few minutes after a flight to loosen up his legs. On June 10th, he developed a sore throat accompanied by a slightly productive cough. He was admitted to hospital with fever 103° and diagnosed as having atypical pneumonia. He was treated with one of the sulfa drugs and after six days remained afebrile. During the febrile period his temperature ranged from normal in the morning to 103° in the afternoon and evening. He was discharged after ten days having remained afebrile for four days. He states he felt so weak that he returned to the hospital the same day and his temperature was 99°. In the morning it was again normal and remained so for 10 more days when he was again discharged. He was instructed by his flight surgeon to keep a record of his temperature for a while. For several weeks he felt better but continued to feel tired. On July 20th, following a flight, his temperature rose to 103 and he developed a severe headache. Following a restless night his temperature was 104.8. He immediately reported to his flight surgeon and was sent to the hospital. He walked into the hospital with temperature 105, pulse 120, and weight 213 pounds, as recorded on his chart. The only positive physical finding recorded was enlargement of the spleen. For fourteen days his fever varied from 98.6 in the morning to 104 in the afternoon and evening. He had numerous frank chills followed by drenching sweats. He lost twenty-eight pounds in seven days. Spinal puncture revealed nothing abnormal. Malarial smears were negative. Blood studies revealed moderate leukopenia with 54 per cent lymphocytes. Repeated counts confirmed a moderate leukopenia with lymphocytes ranging from 44 to 54 per cent. Total white count varied between four and six thousand. Brucellosis was suspected and comfirmed by a high agglutination titre. After fourteen days his fever dropped to nor-

mal following a drenching sweat and he has had only an occassional rise of 99 to 99.4 since. Several days following the fall in temperature he developed rather severe symptoms of myositis in arms, legs and back. There were no swellings or x-ray findings. These symptoms subsided in about two weeks and have not returned. He arrived in the states August 30th. A skin test in October resulted in a moderate reaction with temperature rise to 99.4. The induration and redness persisted at the site of test for approximately six weeks. No specific treatment has been given, since at this time he is symptom free.

The diagnostic criteria and clinical manifestations of the acute type of the disease cannot be described as simple, but generally the acute case is easier to recognize. Positive cultures are limited in a large majority to the acute infections. There has been a good deal of disagreement over the accuracy of the laboratory diagnosis of chronic brucellosis. The disease seems to far surpass syphilis in its ability to mimic other conditions. Unfortunately, however, we have no test comparable to the Wassermann in diagnostic reliability. Blood cultures are difficult and usually disappointing in chronic infections. The study by numerous investigators has established the fact cultures are usually negative in chronic cases, and all emphasize the difficulty encountered culturing the organism even in the acute disease.

There are three important reasons which account for this fact.

1. The culturing of the organisms requires a delicate and difficult technique and many times the growth is slow, yielding positive cultures only after three to four weeks. This greatly increases the possibility of technical error.

2. There is strong evidence of an intermittent bacteremia indicated by cases in which cultures repeated periodically were positive on some occasions while there were intervals when the cultures remained negative.

3. The majority of chronic cases that have yielded positive cultures have been those of brucella abortus, which lends good evidence that most chronic cases are due to this strain which is the most difficult to culture.

The difficulty in culturing the organism does not, however, excuse clinicians from attempting isolation of the organism. It does, however, emphasize the importance of repeated periodic cultures in probable cases, since the diagnosis has often been established by positive cultures when all other laboratory and skin tests were negative. As emphasized by all investigators, the proper technique must be closely adhered to in culturing the organism. Foshay[7] as well as others emphasize the importance of repeated cultures not only of blood but of urine, stools, bile, exudate, and lymph nodes. In suspected cases yielding negative cultures the diagnosis may be established by a combination of all tests combined with a careful history, exclusion of other diseases, blood picture, and the patients' response to specific therapy. The exclusion of other diseases is of paramount importance since brucellosis, a relative benign disease in its chronic form, simulates so many diseases whose prognosis is grave. Thus, one must consider very seriously and carefully the differential diagnosis which includes, among others, typhoid, enteric fevers, tuberculosis, tularemia, syphilis, malaria, rheumatic fever, subacute bacterial endocarditis, and Hodgkin's disease.

In the past a great deal of significance was attached to the agglutination test. Evidence by recent investigators, however, has shown agglutination titre as high as 1:80 is seldom found in chronic cases, and infections have been observed in which the test was positive with only one of eleven antigens used in testing. Robinson[8] found that in five patients with positive blood cultures none had a titre as high as 1:80. In twenty-two patients in Charlotte, North Carolina, in which a diagnosis of chronic brucellosis had been made the agglutinations were all negative, thus agreeing with the findings of Huddleson and his collaborators[9]. Dr. Foshay has shown that antibrucella serum may have broad agglutinating properties for organisims of other genera and families. In his work he has found that the serums made from carefully typed strains agglutinated most of the colon, typhoid, dysentery group, some salmonella, some aerogenes, almost all strains of proteus and alkaligenes, B. tularense and even H. influenza. He found that 6 to 10 per cent of cases proven by culture had negative agglutination.

Calder[10] after performance of more than 2,000 agglutination tests during and after vaccine therapy found the abortus strains are very poor agglutinogens in the human. The agglutination titre was

frequently negative after administration of abortus vaccines and almost never higher than 1:80. With addition of melitensis strains the titres often increased to 1:2560. These observations, as stated by Calder, may explain low or absent agglutinins in the chronic cases, since many of them are probably of bovine origin. Hagebusch and Frei[4] found that in children the agglutination test was the least valuable. This agrees with the findings of Harris and other investigators. In six patients followed seven years and two followed ten years, having high titres at onset of acute attack, the agglutinations have become negative although fever and active signs of the infection are still present. Evans[11], who suffered with the disease many years, cites severe cases proven by culture in which the agglutinations were negative, as was true in her own case. Many investigators have begun to attach more significance to titres as low as 1:10 in suspected cases. Thus, as demonstrated by many reliable investigators, a negative agglutination does not rule out the disease.

The intradermal test is a valuable aid in diagnosis when its limitations are understood. It is comparable to that of the tuberculin test in the diagnosis of tuberculosis. Huddleson[9] regards this test as highly diagnostic, a negative test indicating the disease is not likely. It has been definitely shown, however, that it is not uncommon for cases with positive blood cultures to have negative skin tests. Antigens for this test may consist of killed brucella or substances derived from the organisms. Undesirable reactions to the whole cell antigen have resulted in other preparations from the cell. Among these are brucellergin, prepared by Huddleson, and the fat-free antigens of Levin and Goldstein, Foshay has developed a method of detoxifying brucella with nitrous oxide, and Calder[10] and others have been using this material with results comparable to tests with other materials. All of the antigens are injected intracutaneously in the forearm and the reading is usually made forty-eight hours later. Some maintain twenty-four hour readings should be made also, and delayed reactions are also reported. A positive reaction is based on erythema with induration. The local reaction may persist for days. I have seen one that persisted six weeks. Evidence of the specificity of the skin test has been demonstrated by several reliable investigators. In 1929 Giordano[12] reported the result of this test in twenty cases of proven brucellosis and in one hundred uninfected cases used as controls. All of the proven cases had positive reactions while ninety-nine per cent of the controls had negative results. Calder observed that the mass symptomatology of 550 consecutive subjects showing a positive skin test was strikingly similar to that of patients in whom the diagnosis was made by positive culture. In 80 per cent of these patients specific therapy resulted in relief of symptoms. Hagebusch and Frei[4] found a similar response to specific treatment in children with positive skin tests and symptoms compatible with the disease. Their observations indicate the skin test may be more significant in a child than in an adult. Evidence clearly demonstrates there is no correlation between skin tests and agglutination tests, thus showing the serologic factors responsible for allergic skin reactions are different from those resulting in immunization reactions. Thus, in chronic illnesses with positive skin tests, symptoms and signs compatible with brucellosis, including fever of low grade in which exclusion of other diseases has been conscientiously done, evidence is sufficiently strong to warrant the trial of specific therapy. Since skin testing may produce agglutinins, it is very important to collect blood for agglutination test before this is carried out.

The phagocytic test described by Huddleson[9] is based on the observation that in the presence of specific brucella antibodies (opsonins) in the blood phagocytosis of brucella by neutrophils occurs, while in their absence this does not take place. The test is classified according to the phagocytized organisms as follows: No brucella, negative; 1 to 20, slight; 21 to 40, moderate; and more than 40, marked. The test was used to differentiate susceptible, infected, and immune cases. A positive reaction is supposed to be found in the immune state; a negative reaction in the presence of a positive skin test means active infection. Other investigators have not found this to hold true. Robinson and Evans[8] reported the death of a patient with a marked reaction and positive blood culture. In five active cases proven by positive blood cultures they report the phagocytic reactions varied from mild to weak. Findings of others also indicate that erroneous conclusions may be drawn if a

strong opsonocytophagic reaction is interpreted as a sign of immunity. This test, like other laboratory tests, is valuable when incorporated with other findings.

The blood picture usually reveals a leukopenia with relative lymphocytosis, although chronic and mild cases may have a normal count. In a series of 35 cases, seen at Cook County Hospital, Levitt[13] reported 24 had a leukopenia. In 300 patients with evidence of the infection, reported by Calder[14], leukopenia was reported in one-third of the cases. The most striking feature in this series was lymphocytosis both in percentage and absolute number. A mild hyperchromic anemia was also a frequent finding. The blood picture observed by others agrees rather closely and indicates it is somewhat characteristic of the disease.

A very interesting experiment was made by Foshay and Calder in an attempt to answer the question about the alleged excessive finding of chonic brucellosis by the use of non-cultural methods of diagnosis. Sharing the same materials and methods, they each performed the skin, agglutination, and phagocytosis tests on one hundred patients. A positive reactor was defined as one who was positive to two or more tests. They considered that, if these tests are specific, a high percentage of positive reactors should be found in areas where the infection is known to be prevalent, and the opposite in the regions where it is seldom encountered. San Antonio, in a cattle country not far from a goat raising region, and where pasteurization was incomplete in the city and practically nil in the country, was chosen for one area. Here Calder found 91 per cent positive reactors on those with suggestive complaints.

Dr. Foshay tested patients selected at random in the wards in Cincinnati General Hospital, in a city with a very strict pasteurization law. He found only eight positive reactors. Seven of these gave a history of raw milk consumption and the other was a bacteriologist who suffered a laboratory infection. As pointed out by Hagebusch[4], this experiment also adequately answers the question of whether dead brucella in pasteurized milk might give rise to cutaneous hypersensitivity.

A typical history may reveal a period of long standing ill health. Chief complaints commonly encountered are weakness, ease of fatigue, lack of energy, aching in muscles, and sweating. When weakness and ease of fatigue are absent the diagnosis should be looked on with suspicion. Temperature taking is very important. Many may not be aware of a degree or more of fever in this disease. Fever may be absent or less than one degree. It is interesting to note that frequently the patient's friends think there is nothing wrong and many are dismissed with a diagnosis of neurasthenia.

Simpson[15] states that "A significant temperature curve, physical signs of disease, and positive agglutination tests and skin tests may be entirely lacking throughout a long period of chronic illness. Only a small proportion of patients with chronic brucellosis, probably less than 10 per cent, have experienced a previous acute febrile illness, compatible with a diagnosis of acute brucellosis. In many cases the patient is not entirely incapacitated for work, but complains chiefly of weakness and exhaustion, with or without mild fever. Since the commonly employed diagnostic tests are frequently negative in such cases, and since even the most conscientious physician may not find physical abnormalities to account for the patients complaints, the almost inevitable diagnosis of neurasthenia or psychoneurosis is too often made."

The disease has been demonstrated to be common in children. An excellent review of the literature by Hagebusch and Frei gives convincing evidence that this is true. It should be considered in all cases of unexplained fever and mild complaints of bizarre nature.

TREATMENT

The treatment of brucellosis will depend to a great deal on the various clinical manifestations it may present in different individuals. McGinty and Gambrell[16] list over a hundred and fifty different manifestations of chronic brucellosis. In general, the same symptomatic treatment as in other types of debilitating illnesses is indicated. The response of many patients to the sulfonamides and specific therapy has somewhat lessened the need of general supportive measures.

Numerous drugs have been recommended. In fact, nearly every drug in the therapeutic armamentarium has been tried. This in itself indicates none has been too successful. The reports of numerous investigators seem to indicate the sulfonamides are of greater value in the acute cases.

Artificial fever therapy has had favorable re-

ports. It should probably be reserved, however, for those cases refractory to specific therapy.

Specific therapy is now the choice of numerous investigators who have treated hundreds of patients and followed their results over a period of several years. The use of blood transfusions may be of help in some cases. In two patients receiving this treatment by Creswell and Wallace[17], prompt relief with no recurrences for two years resulted. The donors had high opsonic indices. Favorable results have been obtained with convalescent serum.

Flippin[18] reported five cases in which a polyvalent antiserum of bovine origin was used. All responded in from 2 to 3 weeks with apparent cures ranging from 8 to 24 months. Wherry, O'Neal and Foshay[19] also reported favorable results in a number of cases with antiserum. Hagebusch and Frei[4] reported favorable results in acute cases with antiserum supplied by Dr. Foshay. This serum was produced by inoculation of horses and goats with various strains of chemically treated suspensions of brucella of bovine, caprine, and porcine origin. The usual dosage of this serum is 60 cc., which may be given by three daily injections intravenously or intramuscularly. In children 20 to 30 cc. may be given in daily doses of 10 cc.

Vaccine therapy seems to be the method of choice among the majority of investigators. This is usually in the form of heat killed organisms. The stock vaccines usually contain 2000 million organisms per cubic centimeter. The goal in this form of therapy is to obtain from four to six sharp systemic reactions with fever ranging to 103 to 105. More recently some physicians have aimed at slight reactions with an increase in the number of injections. Some have used as many as twenty injections of a mixed vaccine. Brucellin, as prepared by Huddleson, is an alternate to vaccine therapy. This is a bacteria free agent of the three strains obtained by growing brucella cells in liver broth.

Hagebusch and Frei, in chronic cases in children, reported results on a series of 182 children diagnosed over a three year period. In their experience eighty per cent were helped regardless of age; twenty per cent helped during administration but relapses occurred. Resumption in this group brought relief again. Harris[6] obtained satisfactory results in ninety-five per cent of fifty-one cases treated with brucella vaccine alone. He reports the approximate accuracy of this figure in an additional 247 cases. Angle[20] reported excellent results in a series of 100 patients treated with brucella abortus vaccine. In 11 per cent it was necessary to give additional courses of vaccine due to relapses. One case remained unimproved after 12 months and two deaths occurred as a result of brucella bacterial endocarditis.

In vaccine therapy the usual procedure is, first, to skin test the patient. For this, 0.05 cc. of a 1:10 dilution is used. If no excessive local or systemic reactions occur in forty-eight hours 0.25 cc. may be given intramuscularly. If no ill effects are encountered the dose may be increased 0.25 cc. every three days until one cc. has been reached. Five to eight 1 cc. injections may then be given at three day intervals. If the sensitivity is marked, resulting in redness and severe swelling, the initial dose should be diluted 10, 100, or 1000 times. In some cases the injections may be given at 3 to 7 day intervals according to the degree of the preceding reaction. The interval should not be longer than seven days to avoid increasing the sensitivity. Experience of many investigators indicates there is no set rule of thumb in dosage. The physician must be guided by the reaction of the individual patient. In chronic cases with long continued fever larger doses of vaccine or brucellin may be required. The dose may be increased by 0.5 cc. until 2 to 3 cc. of the vaccine or 5 cc. of brucellin is reached. Huddleson and his co-workers believe a sharp reaction should be obtained as soon as possible before desensitization ruins the chances of successful treatment.

The results of many investigators indicate that with vaccine or brucellin therapy, approximately 60 per cent of the patients are apparently cured, 25 percent are improved, and 15 per cent unimproved.

Among the vast number of complications observed in brucellosis are spondylitis, endocarditis, orchitis, ocular manifestations consisting of retinitis, keratitis, uveitis, papilledema, and optic neuritis, meningitis and secondary encephalitis, psychosis, and abortions. Jones and Norris[21] reported scotomas to be frequent.

If universal use of only pasteurized dairy products could be attained a great source of infection would be eliminated. The use of raw milk from non-reacting cows is not safe since isolation of brucella abortus from cows with negative agglutination tests has been demonstrated. Kolmer, Bondi,

and Rule[22] reported use of vaccine for active immunization against typhoid and brucellosis. It was well borne, with reactions comparable to typhoid-paratyphoid vaccine. Further studies may establish its value as a means of simultaneous immunization against typhoid and undulant fever.

CONCLUSIONS

1. From the work of many reliable investigators brucellosis has been shown to be far more prevalent than previously conceived.

2. It is not a self-limited disease running its course in a few days to a few months.

3. Specific therapy, in the form of heat-killed organisms from abortus strains, offers the greatest hope of cure or improvement in chronic cases.

4. The disease should be considered in all cases of fever undetermined origin and clinical pictures of a bizarre nature.

5. In making the diagnosis, a combination of all the laboratory tests combined with clinical findings should be utilized.

6. The methods of prevention should be stressed, especially in those areas where the disease is commonly recognized.

7. Cases of habitual abortion, in which other causes have been ruled out, should be investigated for brucellosis.

BIBLIOGRAPHY

1. Myer, K. F.: Laboratory Infections Due to Brucella in the United States. *J. Bact.* **29**:43, 1935.
2. Carpenter and Boak: The Significance of the Horse in Brucellosis. *J. Bact.* **33**:1, 1937.
3. Gershenfeld, L., and Butts, D. C. A.: Survey of Undulant Fever and Bang's Disease in United States. *Am. J. Med. Sci.* **194**:678, 1937.
4. Hagebusch, O. E., and Frei, C. F.: Undulant Fever in Children, *Am. J. Clin. Path.* **11**:497-515, June, 1941.
5. Newitt, A. W., Koppa, T. M., and Gudakunst, D. W.: Water-Borne Outbreak of Brucella Melitensis Infection. *Am. J. Pub. Health* **29**:739, 1939.
6. Harris, Harold J.: Brucellosis (Undulent Fever) Clinical and Subclinical, Paul B. Hoeber, Inc., 1941.
7. Foshay, L.: Laboratory Diagnosis of Undulant Fever. *Am. J. Clin. Path.* **10**:176-187, February, 1940.
8. Robinson, F. H., and Evans, A. C.: Chronic Brucellosis in Charlotte, N. C. *J.A.M.A.* **113**:201-206, July 15, 1939.
9. Huddleson, I. F., Johnson, H. W., and Hamann, E. E.: A Study of the Opsonocytophagic Power of the Blood and Allergic Skin Reaction in Brucella Infection and Immunity to Man. *Am. J. Pub. Health* **23**:917, 1932.
10. Calder, R. M.: Chronic Brucellosis. *South. M. J.* **32**: 451-60, 1939.
11. Evans, A. E.: Chronic Brucellosis. *J.A.M.A.* **103**: 665, 1934.
12. Giardano, A. S.: Brucella Abortus Infection in Man—The Intradermal Reaction as an Aid in Diagnosis. *J.A.M.A.* **93**:1957, 1929.
13. Levitt, Robert O.: Undulant Fever. *Med. Clin. of North America* **27**:259-267, January, 1943.
14. Calder, R. M., Stein, C., and Baker L.: Blood Studies in Brucellosis. *J.A.M.A.* **112**:1893-1898 (May 13), 1939.
15. Simpson, W. M.: The Clinical Picture of Undulant Fever. *J. Ohio State M. Soc.* **27**:21, 1931.
16. McGinty, A. P., and Gambrell, W. E.: Chronic Brucellosis. New International Clinic, 1939.
17. Creswell, S. M., and Wallace, C. E.: Immunotransfusion in Undulant Fever. *J.A.M.A.* **106**:1384, 1936.
18. Flippin, H. F.: Treatment of Undulant Fever—A Report of Five Cases Treated With A Polyvalent Serum. *Ann. Int Med.* **12**:232, 1938.
19. Wherry, W. B., O'Neal, A. E., and Foshay, Lee: Brucellosis in Man; Treatment with a New Antiserum. *Am. J. Trop. Med.* **15**:415, 1935.
20. Angle, F. E.: Treatment of Acute and Chronic Brucellosis (Undulant Fever)—Personal Observations of 100 Cases Over a Period of Seven Years. *J.A.M.A.* **105**:939, 1935.
21. Jones, T. W., and Norris, J. L.: Undulant Fever with Visual Disturbances. *New York State J. Med.* **41**: 1625, 1941.
22. Kolmer, J. A., Bondi, A., Jr., and Rule, A. M.: Results of Active Immunization of Human Beings with a Mixed Heat-Killed Vaccine of B. Typhosus, Br. Abortus, Br. Melitensis, *J. Infec. Diseases* **67**:258-267, November-December, 1940.

26 West Williamsburg Road

FORUM

MEDICAL SOCIETY OF VIRGINIA

REHABILITATION

An Effective Partnership.

Unpublicized, and thus virtually unknown, is the work of one of the Medical Society of Virginia's newest committees—the Committee on Rehabilitation. This is the story of the contribution which this committee is making in the development of the program of vocational rehabilitation in Virginia as carried on by the Vocational Rehabilitation Service of the State Department of Education.

Throughout this broad land of ours there are thousands of individuals whose ability to find a suitable place in the employment world is seriously impaired if not completely blocked by the presence of a disability, a disability resulting from the ravages of disease, from the toll of accidents on the highway, factory or farm, and from the effects of congenital conditions. Unfortunately, the number is added to daily. Dependence, unemployment, frustration, and unhappiness are the concomitant results of such disability, results which affect relatives, dependents and the very community itself.

The challenge to return every possible disabled person to a status of self-support, self respect and independence is a powerful one. It is part and parcel of that inner core of democracy and Americanism which holds that every individual is important and that the right to happy and useful living is his sacred right.

On December 7, the Committee on Rehabilitation, which is also the Medical Advisory Committee of the Department of Education's Rehabilitation Service, met with officials of the Rehabilitation Service for its first meeting of the new year. The purpose of the meeting was two-fold: (a) to review recent developments, including the establishment of the Woodrow Wilson Rehabilitation Center, in the rehabilitation program and (b) to explore the possibilities of having the Committee promote a fuller understanding of rehabilitation among the Society's members.

The meeting was held at the Woodrow Wilson Rehabilitation Center located at the former Woodrow Wilson General Hospital of the U. S. Army, midway between Staunton and Waynesboro. The committee has told of the full utilization of this expensive surplus wartime facility by Augusta County and the State to house a consolidated county high school of near a thousand students, a vocational school to serve the whole Valley region, and a Rehabilitation Center.

More about the Rehabilitation Center. As stated by Mr. W. K. Barnett, Supervisor of the Center, "Services are being developed at the Center designed to enable the Rehabilitation Service to bring about the adjustment of hundreds of severely disabled civilians in the State into suitable trades and vocations who hitherto could not be adequately served. These services include (a) a guidance laboratory where new and effective procedures can be employed to help handicapped persons discover their abilities and choose the right job; (b) physical reconditioning and retraining in a thoroughly modern physical medicine department; (c) vocational training under conditions especially favorable to disabled persons; and (d) actual work experience in production shops at the Center in sedentary and light manual jobs".

The Rehabilitation Center comprises fifty-seven buildings of semi-permanent construction which are rapidly being converted into classrooms, student living quarters, shops, facilities for physical and occupational therapy, mess halls, a guidance center, recreation center, and administrative offices. This is expected to house upwards of five hundred handicapped students, both youngsters and adults when it is fully occupied, all of them preparing themselves to return home to a self-supporting job or trade. The Committee learned that twenty students had already enrolled since the opening date, November 3. Smiling young persons on crutches and in wheel chairs were very much in evidence. For them a new life has begun.

Dr. Roy M. Hoover, chairman of the Committee, pointed out that the services of Vocational Rehabilitation through its field counselors and through the Rehabilitation Center offer a valuable resource to doctors whose patients must face readjustment on a job with a serious physical limitation. Any per-

son of working age with a physical or mental handicap to employment or to full employment can receive educational, advisory, and placement services without cost to himself. Applicants for physical restoration services must demonstrate inability to purchase these services themselves.

Dr. Hoover pointed with pride to the report of physical restoration activities of the rehabilitation agency during the previous fiscal year. Three hundred eighty six indigent persons were supplied with the necessary medical and surgical treatment at a cost of $54,000. One hundred eighty seven disabled persons were assisted in securing braces, artificial limbs, hearing aids and other prostheses. Each service was a part of an individual plan of rehabilitation which would enable the disabled person to enter a new job or return to his old one. The earnings of this group during the first year after rehabilitation will repay many times the cost of the service from public funds.

Medical services including diagnostic examinations, surgery, and physiotherapy are provided by qualified physicians in the State, who are reimbursed from rehabilitation agency funds on the basis of a schedule of professional fees that was developed cooperatively by the agency and its Medical Advisory Committee. Hospitalization is purchased from approved hospitals in the State with whom the agency has cooperative agreements. In each individual case careful investigation is made by the rehabilitation agency of the applicant's ability to pay for the needed services.

The doctor and the rehabilitation counselor work as a team. The counselor is responsible for assembling all the information concerning the client which bears on his eligibility and feasibility; his ability to profit by training; his medical needs; his skills and aptitudes. The counselor must depend on the physician for thorough medical diagnosis, for a determination of physical limitation, and for recommendations as to further treatment to remove or reduce the disabling condition.

Present at the meeting was Dr. Thomas B. McKneeley, Chief, Physical Restoration Section, Office of Vocational Rehabilitation, who spoke briefly. Dr. McKneeley stated that case services to clients are 50% reimbursable by the Federal Government to State administered programs of vocational rehabilitation. Dr. McKneeley complimented the Virginia program very highly in being the first to establish a Rehabilitation Center within the agency itself and expressed the belief that the center would soon be meeting a vital need in providing the necessary rehabilitation services to severely handicapped persons. Dr. McKneeley explained that medical services are a highly important part of a well-rounded program of vocational rehabilitation, since after proper diagnosis, many disabilities can be eliminated or greatly reduced through proper treatment. Dr. McKneeley stated the conditions of eligibility for treatment to be: (1) the disability must be a considerable vocational handicap; (2) the individual must be medically indigent; (3) the condition must be "static"; (4) the condition must be amenable to successful treatment and; (5) the treatment must be completed within a reasonable length of time.

The committee was pleased to have at its meeting Dr. Guy R. Fisher, President, Medical Society of Virginia. Dr. Fisher expressed his pleasure at the constructive manner in which the Society's Committee on Rehabilitation was cooperating with a State educational agency in carrying out a program of rehabilitation for the physically handicapped that would more fully meet their needs. He stated that he felt a personal challenge as a physician to call to the attention of the rehabilitation agency disabled persons whose enforced idleness had often become an accepted part of the life of a community and that the practice of medicine could have no higher goal than to see the disabled patient regain his maximum usefulness in the community.

Dr. Fisher emphasized the Society's desire to promote and extend medical care to indigent persons on a basis that protects the fundamental rights of both the patient and the physician. He stated that the medical phases of the rehabilitation program in Virginia are being conducted in a manner that would command the respect and enthusiastic support of the Society's members. Dr. Fisher urged the Committee to accept as one of its tasks a responsibility for disseminating information about the program regularly to the doctors of the State and to keep the doctors informed as to the medical needs in the program.

To carry out its plans for a more active program of cooperation with State rehabilitation officials the Committee plans three regular meetings during the year. The five-member executive sub-committee will prepare more specific plans for presenting rehabili-

tation information to doctors. The Committee and representatives of the rehabilitation agency will seek to meet the requests of local medical groups for program material on vocational rehabilitation as well as the requests of any individual physician.

Most clients come to the Vocational Rehabilitation Service after years of struggling against a handicap. There is too long a time-lag between the sickness or injury and the beginning of guidance, curative or remedial services, training and placement. The concerted efforts of the doctor and the rehabilitation worker must be begun at the earliest possible moment. Physical rehabilitation alone is not enough. Attempts at vocational adjustment without adequate diagnosis and treatment are futile. Together they reach their highest fruition.

The membership of the Committee on Rehabilitation is as follows:

Dr. Roy M. Hoover, Roanoke.
Dr. W. E. Dickerson, Danville.
Dr. Paul D. Camp, Richmond.
Dr. George A. Duncan, Norfolk.
Dr. J. R. Blalock, Marion.
Dr. N. F. Rodman, Norfolk.
Dr. L. J. Roper, Richmond.
Dr. G. B. Setzler, Pennington Gap.
Dr. Leroy Smith, Richmond.
Dr. Frank B. Stafford, Charlottesville.
Dr. G. S. Fitz-Hugh, Charlottesville.
Dr. F. J. Wright, Jr., Petersburg.

American Academy of General Practice.

Members in forty-two states, the District of Columbia and Hawaii have been enrolled in the newly formed American Academy of General Practice, according to a statement issued today by Dr. Paul A. Davis, Akron, Ohio, president of the Academy. Applications are being received at the rate of nearly 100 a week at the headquarters of the national association of general practitioners of medicine and surgery, temporarily located at 20 North Wacker Drive, Chicago 6, Illinois. Mac F. Cahal, executive secretary of the American College of Radiology, is serving as general counsel and acting executive secretary of the Academy of General Practice.

Dr. Davis, president, was last year chairman of the Section on General Practice of the American Medical Association. Other officers of the Academy are: Dr. E. C. Texter, Detroit, vice-president; Dr. U. R. Bryner, Salt Lake City, treasurer; Dr. Stanley R. Truman, Oakland, California, secretary.

The Academy has no official connection with the American Medical Association except that members must be members of the American Medical Association. The Academy plans to support and cooperate with the A. M. A. in its high ideals and will also support every other group whose aims are unselfish and for the best interests of the public health.

The purposes of the Academy, as set forth in its constitution are:

1. To promote and maintain high standards of the general practice of medicine and surgery.

2. To encourage and assist young men and women in preparing, qualifying, and establishing themselves in general practice.

3. To preserve the right of the general practitioner to engage in medical and surgical procedures for which he is qualified by training and experience.

4. To assist in providing postgraduate study courses for general practitioners, and to encourage and assist practicing physicians in participating in such training.

5. To advance medical science and private and public health.

To be eligible for membership a physician must be engaged in general practice. He must be duly licensed in the state in which he practices, and must be of high moral and professional character. He must have had at least one year of rotating internship at an approved hospital, or the equivalent in postgraduate training. He must have been in general practice for at least three years. (Special consideration is being given by the Membership Committee to military service). He must have shown interest in continuing his medical advancement by engaging in postgraduate educational activities.

Since its inception the progress in organization has been remarkable. After only three months the membership is larger than all but the two or three largest specialty groups. By stimulating postgraduate study and establishing a standard of quality toward which all conscientious general practitioners will strive, the Academy will promote progress in general practice in much the same way the specialty societies have promoted progress among specialists.

ANA Assails Plan to Use Practical Nurses in Place of Professional Registered Nurses.

Indiscriminate substitution of practical nurses for registered professional nurses to take over the major part of ordinary bedside nursing, as suggested by Dr. Morris Fishbein of the American Medical Association, has been assailed by Ella Best of the American Nurses' Association as "detrimental and dangerous" to a patient's health.

Her opposition to Dr. Fishbein's views, which appear as an editorial in the current issue of the health magazine *Hygeia* was made known in a telegram sent to Dr. Fishbein.

"May we respectfully suggest that the solution of the nursing crisis does not lie in the training of more practical nurses to take over the major part of bedside nursing in hospitals, as you were quoted by the Associated Press with a Chicago dateline as saying in *Hygeia*. We recognize that practical nurses fulfill a needed function but not this one. This step would be extremely detrimental and dangerous to a patient's welfare", Miss Best wired.

"In time of critical shortage of doctors it was not suggested that first aid technicians be substituted in their place. The same parallel exists between practical and professional nurses.

"The ANA program for practical nurses calls for increased utilization of their services if three precautions are taken: 1—Proper preparation and training of at least nine months in an accredited school. 2—State licensure for practical nurses to maintain standards of practical nursing and to weed out the incompetents. 3—Proper placement and supervision to make certain practical nurses are placed where they will not practice beyond their ability, and to insure their working under competent supervision.

"The American Nurses' Association holds that the crisis in nursing will be overcome only when the profession is made sufficiently desirable to attract and retain a sufficient number of qualified women on a basis of its professional status and economic stability. This rather than lowering the standards of nursing seems to be indicated in the public interest", Miss Best concluded.

Dr. Fishbein's editorial, pointing out the existence of a national nurse shortage of 42,000, suggested that the answer to the problem may lie in the training of more practical nurses to take over the major part of ordinary bedside care in hospitals.

Medical and Surgical Symposium.

Watts Hospital, Durham, N. C., will hold its fifth annual Medical and Surgical Symposium on February 11 and 12, for which the following interesting program has been arranged:

WEDNESDAY, FEBRUARY 11, 1948

11:00 A.M.—1:00 P.M.

Clinico-Pathological Conference—Virgil H. Moon, M.D., Professor of Pathology, Jefferson Medical College, Philadephia; and Garfield G. Duncan, M.D., Director of the Division of Medicine, Pennsylvania Hospital, and Clinical Professor of Medicine, Jefferson Medical College, Philadelphia.

2:30 P.M.—"The Clinical Use of Endocrines in the Management of Urogenital Tract Disease"—Reed M. Nesbit, M.D., Professor of Urology, University Hospital, Ann Arbor.

3:30 P.M.—"Recent Advances Concerning Coronary Heart Disease"—Louis N. Katz, M.D., Director of Cardiovascular Research, Michael Reese Hospital, Chicago.

8:00 P.M.—"The Diagnosis of Pituitary Disease"—Lewis M. Hurxthal, M.D., Surgeon-in-Chief, Medical Department, Lahey Clinic, Boston.

9:00 P.M.—"Pathogenesis and Treatment of Malignancy of the Large Bowel"—Richard B. Cattell, M.D., Surgeon-in-Chief, New England Deaconess Hospital; Surgeon, New England Baptist Hospital; Surgeon, Lahey Clinic, Boston.

THURSDAY, FEBRUARY 12, 1948

11:00 A.M.—1:00 P.M.

Clinico-Pathological Conference—Tracy B. Mallory, M.D., Director of the Laboratories of Pathology and Bacteriology, Massachusetts General Hospital, Boston; and Conger Williams, M.D., Associate of Dr. Paul White in the Cardiologic Group, Massachusetts General Hospital, Boston.

2:30 P.M.—"Anticoagulant Therapy"—Nelson W. Barker, M.D., Associate Professor of Medicine, Mayo Foundation, Rochester, Minn.

3:30 P.M.—"Late Changes in Joints as a Result of Internal Derangements of the Knee"—Ralph K. Ghormley, M.D., Professor of Orthopedic Surgery, Mayo Foundation, Rochester, Minn.

8:00 P.M.—"Treatment of Diabetes in Every Doctor's Practice"—Elliot P. Joslin, M.D., Professor Emeritus, Clinical Medicine, Harvard Medical School, Boston.

9:00 P.M.—"Recent Nutritional Advances in Medicine and Surgery"—Paul R. Cannon, M.D., Professor of Pathology, University of Chicago, Chicago.

Further information on the Symposium may be obtained from Dr. W. W. Vaughan, who has charge of the Symposium.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for November 1947, as compared with the same month in 1946, and for the period of January through November, 1947, compared with the same period in 1946, is as follows:

	Nov. 1947	Nov. 1946	Jan.-Nov. 1947	Jan.-Nov. 1946
Typhoid and Paratyphoid	29	13	156	116
Diarrhea and Dysentery	141	109	4,808	2,560
Measles	100	270	7,661	13,215
Scarlet Fever	182	166	1,184	2,528
Diphtheria	39	82	227	498
Poliomyelitis	18	29	172	132
Meningitis	4	4	96	194
Undulant	9	8	74	60
Rocky Mountain Spotted Fever	1	1	67	93
Tularemia	3	5	50	57

TULAREMIA IN VIRGINIA

During the past ten year period 647 cases of tularemia have been reported to the State Department of Health, and of these, 389 or 59.2% occurred in the months of January and February and again in November and December. This four month period roughly coincides with the hunting season and its attendant risks in handling rabbits and squirrels and other infected animals. It is therefore considered opportune to review certain factors in diagnosis, treatment and prevention of this disease.

Tularemia infection largely occurs in those who have handled infected rabbits, although the disease may develop through contact with a wide variety of other animals and certain birds. Infection may also be acquired through tick bite or that of other blood sucking insects. The infecting organism may enter the body at any point wherever microscopic abrasion of skin or membranous tissue occurs and, in most cases, the characteristic lesion later develops at this point with enlargement of the regional lymph nodes. In other types, without apparent local lesion, local or general adenitis may occur and tularemic pneumonia or gastro-intestinal infection may develop. Material assistance to diagnosis is offered by the rabbit handling history and by the specific agglutination test, which becomes of significant titer early in the disease.

Aside from symptomatic and supportive therapy, streptomycin may be regarded as a specific antibiotic and brilliant results have followed its usage, particularly in early cases. The recommended dosage will vary according to severity and type of infection. Dosage is indicated of from 0.5 to 2.0 grams daily, given intramuscularly or subcutaneously at three or four hour intervals. This therapy should be continued for five to seven days or longer if temperature or infection persists.

Preventive measures obviously are directed toward avoidance of handling infected rabbits. Since all wild rabbits are potentially infected, the hands should be protected by heavy gloves in cleaning and dressing the animals. Those with open body lesions should exercise particular precautions and, if possible contamination has occurred, prompt local antiseptic applications are indicated. The rabbit meat should also be carefully handled and well cooked to avoid serious internal infections.

Rare Graft Operation.

A rare case in which part of a man's ear-flap was successfully transplanted from one ear to another is reported in the current issue of *Archives of Otolaryngology*, a publication of the American Medical Association, by Alfred Wachsberger, M. D., Sacramento, Calif.

The patient had received an accidental injury to his left ear 12 years before which resulted in a defect of the ear-flap. Both ears being proportionately large, a graft was taken from the normal ear to repair the defect, since the left ear would also have to be reduced in size in the course of the operation

Bibliotheca Obstetrica

CLEOPATRA, 69 B.C.—30 B.C.:De Morbis Muliebribus, Liber, ex Prisciano Cleopatra, Moschione, libro Matricis dicto, & Theodoro Prisciano collectus. In Caspar Wolf's Gynaeciorum, Basel, 1566 and in Israel Spach' Gynaeciorum, 1597.

The name Cleopatra is intriguing. It is common enough in profane history, but is practically nonexistent in medical biography. The only reference to Cleopatra, the gynecologist, is: C. F. Mayer, Orv. hetil. 73:22, 1929. The Army Medical Library was good enough to send us a microfilm of the article. It is in Hungarian and we were unable to find anyone who could translate it for us. Finally Dr. Mayer, hearing of our difficulty, sent us a translation of his own article. It is from his translation that the following was abstracted: Cleopatra was the author of four works relating to medicine, De Morbis Mulieurum, De Chymia sive arte aurum faciendi, De Mensuris et ponderibus, and De Unguentis pretiosis. Of these only the first is extant. It exists in ms. and in printed form. It was written at the request of her daughter and is probably gotten from Cleopatra's physicians, Dioskorides and Olympus. The former was the author of 24 medical works.

In the third century B.C. Herophilos founded a school of gynecology in Alexandria. Herophilus wrote a work for midwives, and an Alexandrian physician called Kleophanthes also wrote on gynecology. These two works were probably the basis for all gynecological writings of the Middle Ages as well as for Cleopatra's work. The Alexandrine school, when Cleopatra attended it, contained both the tradition of the ancient Egyptians, which was magic medicine, and the rational medical science of the Greeks. Soligines, the astronomer, who devised the calendar for Julius Caesar, was one of Cleopatra's teachers. Wolf mixed up the work of Cleopatra with the writings of other gynecologists. It is however possible to separate the parts written by Cleopatra and thus obtain the gynecology of the Alexandrine school around the time of Christ. It is characterized by the lack of teleology. There are but few anatomical facts. Physiology is also scanty except that the work describes the changes of the face in choleric women during sexual intercourse. The most frequent causes of diseases are mentioned to be the method and frequency of sexual intercourse as well as the menstruation and its disorders. Sterility is either in the man or the woman. In man it is caused by debauchery or drunkenness. In women the body constitution has great influence upon their fertility. The asthenic and obese and those of a nagging nature are usually infertile. She knows how to recognize pregnancy from hydatid mole by palpation of the cervix. She mentions eclampsia in labor and the presence of septic ulcer in the vagina in puerperal fever. She describes an uterine worm which permeates the uterus from the intestines, causing an itching both in the body and the external genitalia. The inflammation of the uterus is treated by blood letting and cupping, massage, and application of mustard plaster to the abdomen. Against displacement of the uterus she recommends aromatic fumigations by which the uterus may go back to its place.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... MRS. J. L. DECORMIS, Accomac
President-Elect ..... MRS. R. M. REYNOLDS, Norfolk
Recording Secretary ..... MRS. M. H. HARRIS, West Point
Corresponding Secretary MRS. HOLLAND TROWER, Eastville
Treasurer ..... MRS. REUBEN SIMMS, Richmond
Parliamentarian ... MRS. E. LATANE FLANAGAN, Richmond
Historian ..... MRS. H. A. LATANE, Alexandria

Reports from Auxiliaries.

AUXILIARY TO THE DANVILLE-PITTSYLVANIA ACADEMY OF MEDICINE

This Auxiliary met October 29, at which time Mrs. Henry Bourne, Chairman of the day, gave a few highlights on the meeting in Roanoke. Following this, she introduced the speaker, Dr. L. R. Broome, who gave a most helpful and interesting talk on "Tuberculosis as a Civic Problem".

HELEN S. MCMANN, (MRS. WALTER)
President.

AUXILIARY TO THE WARWICK COUNTY MEDICAL SOCIETY

This Auxiliary held a bazaar at the St. Andrew's Episcopal Church on December 4th and 5th. Mrs. Barnes Gillespie was general chairman, and the proceeds were contributed to the Lucille Hunnicutt Jones Award. This award was created by the Woman's Auxiliary to the Warwick County Medical Society to perpetuate the memory of Mrs. Jones, wife of Dr. Orvin C. Jones and sister of Dr. Thomas N. Hunnicutt, Jr., both of Newport News, as she was a very active member of the Auxiliary, interested in medical and nursing work. The award is presented to the outstanding student nurse at Riverside and Buxton Hospitals, upon completion of her preclinical.

For the year 1947 the following students were recipients of a $50.00 cash award: Lottie Mae Batemen of Elizabeth Buxton Hospital, Helen Bluford of Riverside Hospital, and Dorothy Moore of Elizabeth Buxton Hospital.

The new officers of the Auxiliary were installed in October 1947 at the Chamberlain Hotel, Old Point Comfort, and are as follows:

President, Mrs. Chester D. Bradley.
Vice-President, Mrs. Thomas N. Hunnicutt, Jr.
Treasurer, Mrs. J. C. Cutler.
Recording Secretary, Mrs. Melvin L. Horne.
Corresponding Secretary, Mrs. Herbert H. Neisser.
All are of Newport News.

GLORIA C. GOLDSMITH,
(MRS. WILLIAM M.)
Chairman, Publicity.

BOOK ANNOUNCEMENTS

400 Years of a Doctor's Life. Collected and arranged by GEORGE ROSEN, M.D., and BEATE CASPARI-ROSEN, M.D. Henry Schuman, New York, Publishers. 1947. xvii-429 pages. Cloth. Price $5.00.

American Medical Research Past and Present. RICHARD H. SHRYOCK, Ph.D., Professor of History and Lecturer in Medical History, University of Pennsylvania; Acting Director, American Council of Learned Societies. New York, The Commonwealth Fund, 1947. xv-350 pages. Cloth. Price $2.50.

Ulcer. The Primary Cause of Gastric and Duodenal Ulcer; Diagnosis, Medical and Surgical Treatment, Prevention. By DONALD COOK, B.A., M.D., Chicago. Medical Center Foundation and Fund, Chicago. 1947. xiii-187 pages. With 27 illustrations. Cloth.

Textbook of Human Physiology. By WILLIAM F. HAMILTON, Ph.D., Professor of Physiology, University of Georgia School of Medicine. Philadelphia, F. A. Davis Company, 1947. xvi-504 pages. With 121 illustrations. Cloth. Price $6.00.

Textbook of the Ear, Nose and Throat. By FRANCIS L. LEDERER, B.Sc., M.D., F.A.C.S., Professor and Head of Department of Otolaryngology, University of Illinois College of Medicine, Chicago; Chief of the Otolaryngological Service, Research and Educational Hospital, etc. And ABRAHAM R. HOLLENDER, M.Sc., M.D., F.A.C.S., Professor of Otolaryngology, Emeritus, University of Illinois College of Medicine, Chicago, etc. Second edition. F. A. Davis Company, Philadelphia, 1947. xi-596 pages. 182 illustrations. Cloth. Price $7.00.

Sex Power in Marriage. With Case Histories. EDWIN W. HIRSCH, B.S., M.D. Research Publications of Chicago, 1947. xxi-218 pages. Cloth. Price $3.00.

Practical Clinical Psychiatry. By EDWARD A. STRECKER, A.B., A.M., ScD., Litt.D, LLD., M.D., Professor of Psychiatry, School of Medicine, University of Pennsylvania; FRANKLIN G. EBAUGH, A.B., M.D., Professor of Psychiatry, University of Colorado, School of Medicine; JACK R. EWALT, M.D., Professor of Neuro-Psychiatry; Director, Galveston State Psychopathic Hospital, University of Texas Medical Branch. Section on Psychopathologic Problems of Childhood by LEO KANNER, M.D., Associate Professor of Psychiatry, Johns Hopkins University, School of Medicine. Sixth edition. The Blakiston Company, Philadelphia. 1947. xi-476 pages. Cloth. Price $5.00.

The Practical Nurse. By DOROTHY DEMING, R.N., Consultant in Public Health Nursing, Merit System Unit, American Public Health Association, etc. New York, The Commonwealth Fund, 1947. viii-370 pages. Cloth. Price $3.00.

Much confusion exists in the minds of patients and the public as to the meaning of the terms, prac-

tical nurse, registered nurse and professional nurse. There is need to define the functions of additional workers who are engaged in the care of the sick. The author of "The Practical Nurse" has very ably discussed many questions in this comprehensive book in which she describes how the practical nurse has functioned in the past and the many ways in which she is now serving in homes, general, mental and tuberculosis hospitals, industry, and in the newest field, public health.

In Chapter II, entitled "Who is the Practical Nurse?", not only is the modern practical nurse as a person defined in detail but also an historical review of the rough road over which she, like her professional sister, has travelled lend clarity to her true and needed usefulness as a member of the health team. The early trained nurses were practical nurses from our modern viewpoint while doctors performed many of the procedures now the responsibility of the professional nurse. The author writes, "The discoveries of the laboratory have demanded a more highly educated professional nurse to assist the doctor in diagnosis and treatment and have driven out Miss Nellie, kindly, conscientious and deft though she was, to be replaced by the practical nurse trained to assist the professional nurse in giving bedside care and the simpler treatments."

No one will deny the pressing need for information concerning the place of the practical nurse who is here to stay. Valuable reference material including facts and figures will be found in chapters under such topics as, "Where Should Practical Nurses Prepare?", "Variation in Curricula in the Schools of Practical Nurses", "Where Should Practice be Given?", Problems in Teaching", "The Need for Supervision", "Essential Points in a Good Nurse Practice Act", and "Employment Problems." The appendix contains an annotated list of textbooks and instruction outlines together with the names of the 46 schools for training practical nurses or licensed attendants approved as of July 1945.

SYBIL MACLEAN.

Hospital Care in the United States. A Study of the Function of the General Hospital, Its Role in the Care of All Types of Illness, and the Conduct of Activities, Related to Patient Service, with Recommendations for Its Extension and Integration for More Adequate Care of the American Public. Commission on Hospital Care. New York, The Commonwealth Fund, 1947. xxiv-631 pages. Cloth. Price $4.50.

The purpose of this survey as stated in the report was to make "A Study of the Function of the General Hospital, Its Role in the Care of All Types of Illness, and the Conduct of Activities Related to Patient Service, with Recommendations for Its Extension and Integration for More Adequate Care of the American People." The Commission on Hospital Care was organized in 1942 upon the recommendation of the Postwar Planning Committee of the American Hospital Association. The Commission recognized that hospital care must be organized and effected by the residents of the area who use the facilities. The basic plan of the pilot study made in Michigan is carefully outlined including the procedures and methods of study developed by the Commission which may serve as a work pattern for other states. The wide variety of groups represented on the Commission, including individuals from professional organizations (medical, dental, nursing, hospital), hospital administration, the press, industry, labor, agriculture, clergy and education, provides a broadened basis upon which a report may be presented to the American people as a guide to the future development of hospital care.

Section one of the report considers the organization, objectives, purpose and method of study of the Commission on Hospital Care. The far-reaching scope of the survey is reflected in the summary of 181 recommendations briefly stated in section two and amplified in detail throughout the book. Goals for administrators of nursing services and nursing education are found among the conclusions. Factors governing the distribution, use, size, and need for hospital facilities are analyzed and attention is given to all major hospital problems including distribution of professional personnel, population density and size of hospital community, and method of measuring bed need. Statistical data are presented in 94 tables and 58 charts which show rural-urban variations and similarities, personnel distribution, present health facilities, and vital statistics.

This book is of particular value to nurses who participate in planning hospital and health resources in their communities. Advisory and citizen committees and teachers should be encouraged to use the book as a source of valuable information concerning today's hospital situation and probable future plans for health care.

SYBIL MACLEAN.

EDITORIAL

Westminster Abbey and Its Monuments

THE aisles and walls of Westminster Abbey, St. Paul's and, to a lesser extent, the other great Churches in England, are cluttered up with statues and memorials. It would seem that no dead Englishman is ever forgotten. To us, living—to some of us living right—but at any rate living, is the important thing. In England, the emphasis seems to be placed on dying. Some, who have done nothing in life to achieve renown, gain immortality in the way they have died. Others who have had some small achievement in life, become famous in death. The size of the memorial bears some relationship to the deceased's means, but the interest of posterity, be it said to its credit, does not seem to be greatly influenced by the size of the statue. The politicians in the North transept of the Abbey attract fewer visitors than the poets on the opposite side of the Church.

Our guide in London told us some wonderful stories in this connection. There was Jack Sheppard, Knight Templar, turned highwayman. When he was finally hung, his brother Knights took pity on his body and encased it in lead and, since it could not be buried in Holy Ground, hung it up a tree. After some 60 years, when his infamy was less malodorous, it was cut down and buried in front of their church, St. Mary the Virgin. Then there was Thomas A. Becket, another Englishman, who gained immortality in death. Our guide's story checks well with history, with perhaps some difference in emphasis. According to our guide the common people had a hard time in Henry II's reign. There were ecclesiastical courts and royal courts. If you fell into the clutches of either, and you did not have money to buy yourself out, you were out of luck. Of the two, the ecclesiastical courts were the more corrupt. Upon the death of the Archbishop of Canterbury, Henry attempted to "pack" the ecclesiastical supreme court, by appointing Thomas Becket, one of his supporters, to the vacant see but, as soon as Thomas got firmly seated, he became as bad as his predecessor. In a fit of vexation, Henry exclaimed "Will not some one rid me of this rascal?" Accordingly, three knights in full armor called upon the Archbishop, who, becoming alarmed, fled into the Cathedral. The knights pursued him and overtook him as he neared the high altar, and brutally slew him. Becket was canonized almost immediately and his tomb back of the altar attracted innumerable pilgrims. Plenary indulgencies were given for a visit to the shrine. When Henry VIII came to the throne, it was the richest shrine in England. This was more than Henry could stand, especially as it was the very personification of resistance to royal authority. The King ordered the tomb to be destroyed and carted away 29 wagon loads of loot. The site of the tomb is now a bare space outlined by original stone worn hollow by pilgrims' knees.

As examples of those whose reputations were enhanced by their manner of death or burial, at least in the eyes of tourists, are Sir Thomas More and Ben Jonson. Our guide said not a word about *Utopia,* but related how when Sir Thomas was beheaded, and his head stuck upon London Bridge, his daughter bribed a guard to toss it into the river. She "happened" to be passing in a boat and recovered the head and buried it in St. Dunstan's in Canterbury. In Westminster Abbey he told us about Ben Jonson, who being poor, could not buy a grave within the Abbey. However, he requested that he be given six inches of consecrated ground. Accordingly he was buried standing up in the North Aisle of the Nave. The spot is marked with a small stone which

attracts almost as much attention as the grave of the unknown soldier, who is buried near the west door in French mud and covered with Belgium granite.

One Sunday afternoon we went to divine service in the Abbey. The congregation, about 500, filled the seats in the choir and about one-fourth of the North aisle. It takes some special occasion like a coronation to fill the entire church. The music was magnificent and the sermon was excellent. We were not conscious of the memorials about us, neither Shakespeare, nor Jonson nor even Lord Byron bothered us. Yet somehow we had a feeling that the service was a secondary matter. On this side of the Atlantic we have churches especially for divine worship; we bury our dead in cemeteries, and hold our civic pageants in auditoriums. Possibly we have carried specialization too far, and maybe the English are right. In the long run they usually are.

The Conference of State Medical Association Secretaries and Editors

LAST year a committee was appointed with Mr. Theodore Wiprud, secretary of the Medical Society of the District of Columbia, as chairman, to prepare a program for this meeting. The result was a most excellent program that took up every minute of Friday and half a day Saturday, November 7th and 8th. In the morning of the first day were discussed: Health exhibits for lay groups, effective scientific programs for medical meetings, a survey of group practice, and the private physician in the school health program. After lunch there was a panel discussion on the progress of prepayment medical care plans. The meeting then divided into five groups for round table discussions on (1) public relations, (2) relations with labor, (3) federal and state legislation, (4) rural medicine, and (5) planning and conducting state medical conventions. At the dinner for the secretaries there was a forum on "How Can the Activities of the American Medical Association and the State Medical Societies be Better Coordinated?" At the dinner for the editors there was a state medical journal clinic. On Saturday morning there were reports of the round table discussions of Friday afternoon. In addition Louis Bauer told us about the World Medical Association. Before adjourning the Conference elected a Program Committee for the 1948 conference.

Space forbids our discussing all the interesting topics. We shall confine ourselves to a report on prepayment medical care programs and the clinic on medical journals. The first prepayment medical plan was started in 1882 by the Northern Pacific Railroad. Plans sponsored by the medical profession are now operating in 38 states. There is a close parallel between the growth of the prepayment medical plans and the Blue Cross Hospital Plans. The Blue Cross now has an enrollment of 29,000,000. The medical care plans have now 7,000,000 enrolled. Their worry now is not that the plans will not grow, but that the plans will grow so fast that they will not be able to carry out the contracts on account of lack of hospital beds. Surveys have shown that there is a shortage of 195,000 general hospital beds in the country. In Wisconsin, where the farmers, labor unions and government employees comprise one-fourth of the population, the cooperatives have gotten through the legislature an enabling act, so that they can have their own prepayment medical care plan. The state medical society helped them shape the legislation. Another phase of prepayment medical care is the private insurance plan. The number who are insured in private companies was not stated, but the statement was made that the rates charged by the private companies have been considerably reduced. Another phase that was discussed was the publicity

or lack of publicity. In Michigan where the medical plans have about one million subscribers, Senator Vandenburg, who is greatly interested in all such matters, did not know about this coverage. In a recent conference the Senator from Michigan said that while the figures show that one out of four persons in Michigan was a subscriber, yet only five out of 100 persons, whom a politician met on the street, knew anything about the plan.

The "patients" in the medical journal clinic were *California Medicine, The Connecticut State Medical Journal, The Ohio State Medical Journal,* and the *Wisconsin Medical Journal.* Mr. Robert H. Roy, Chief Engineer, Waverly Press, discussed format and topography. He was very complimentary of the Connecticut Journal praising both the appearance and the legibility. He said that a slightly smaller type such as the California journal used, would be more economical in that more matter could be printed on a page and that it would be easy enough on the eyes. When asked about advertisements on the front cover, he said that he was strongly against such practice. Someone mentioned the Journal of the American Medical Association and Dr. Fishbein replied that he did not like it any better than Mr. Roy, but that its use since the eighties had given the cover almost the sanction of a copyright. Mr. Harry Shaw, General Editor, Harper and Brothers, spoke of literary aspects. He was quite humorous. He said that he had read all four journals, but confessed that he had not understood a word in any. He was impressed (not favorably) by the polysyllabic words and the verbosity. He was convinced that there was no such thing as good writing, but there was sometimes good re-writing. Mr. John Storm, Executive Editor of *Hospitals,* discussed the editorials. What he found most to complain of was that the editors did not seem to have any plan or objective. Dr. Fishbein commented on the scientific material. Practically all the articles had been prepared to present at a medical meeting and for that reason did not make good reading. A bibliography, unless the article is a complete review of the subject, should be limited to those actually referred to in the text, and in that case he preferred the reference to be on the same page. In regard to case reports, and they made the best possible scientific literature, they should not be mere copies of the hospital record; they should be condensed as much as possible and all unnecessary and routine data and hospital jargon should be left out. To report all the temperature readings, all the blood pressure determinations and all the blood counts only made the report tiresome and added nothing to its scientific value. The "clinic" excited much favorable comment and the editors felt that their attendance was well worth while.

The World Medical Association

BEFORE the last war there was an international medical association with a French name. The American Medical Association belonged to it at one time, but withdrew from it on account of its leftists tendencies. After World War II a movement for a world wide association was started by the English and Canadians. A preliminary meeting was held in London in April 1947, at which time there was an attempt to revive the old international association. However this was defeated and it was decided to start *de novo.* The aims of the new society are to promote world health and also to promote world peace. An organization meeting has been held in Paris at which there were 115 persons representing 46 nations. The membership is to consist of two representatives from each national medical association. The president is to come

from the nation in which the meeting is to be held. This year he was a Frenchman. Next year the meeting is to be held in Prague. There will be a Council of ten.

The question of finances is an unusually complicated one as many of the countries will not permit money to cross their boundaries. Already there are three depositories, England, France and Switzerland. The treasurer is a Swiss. Friends of American Medicine have provided a fund of $50,000.00 a year to be held by five members of the American Medical Association and four representatives of the donors. This money is to remain in this country until its expenditure is sanctioned by the delegates from the United States. The permanent secretary is to have his office in New York City. It is the opinion of Dr. Sensenich that we have little to gain from such an organization, but can give a lot to it in the way of raising the level of health over the world and in promoting national organizations of doctors in countries where there are weak national societies or none at all. Already the Association has taken action condemning the war crimes committed by German doctors and refusing to admit the German society until it has expelled those members guilty of such crimes.

SOCIETIES

The Alexandria Medical Society,

At its regular monthly meeting, December 11, was addressed by Dr. Joseph S. Lawrence, Washington representative of the American Medical Association. Dr. Lawrence discussed the various legislative matters pertaining to national health which are still in the embryonal stage in the several committees in Congress. He further stressed the importance for local medical societies to take the lead in promoting better health for all individuals in the community through all existing and available agencies, both public and private. It was his thought that much more could be accomplished in the improvement of health by local groups in the individual communities than by an unwieldy national program.

Dr. Jefferson D. Kernodle, Alexandria Hospital, was elected into the Society.

GEORGE SPECK,
Secretary

The Arlington County Medical Society,

At its meeting on December 18, elected Dr. Walter P. Hammer as president, and Dr. M. Roy Nicholson as vice-president. Dr. Leo Solet was re-elected secretary-treasurer.

Fredericksburg Medical Society.

The officers of this Society recently elected for 1948 are: President, Dr. Thomas B. Payne; vice-president, Dr. James G. Willis; and secretary-treasurer, Dr. D. W. Scott.

The Lynchburg Academy of Medicine

Held its regular meeting on December 8th. The following officers for 1948 were elected: President, Dr. Harold L. Riley; president-elect, Dr. William Pugh; and vice-president, Dr. Eugene Groseclose. The secretary and treasurer will be elected at the January meeting. New trustees are: Drs. J. T. T. Hundley, George Craddock, and Clarence Keefer. Delegates to the 1948 meeting of the State Society were also elected at this time.

Richmond Academy of Medicine.

At the annual meeting of the Academy held on December 16th, the following officers for 1948 were named: Dr. E. T. Gatewood succeeds to the presidency; Dr. H. J. Warthen, president-elect; and Drs. H. Hudnall Ware and Emily Gardner, vice-presidents; Drs. Ennion Williams and Oscar Hite were elected to the Board of Trustees. Following a business session, the usual Christmas party was held.

The Smyth County Medical Society

Held its monthly dinner meeting on November 19, with an attendance of ten members and two guests.

The minutes of the last meeting were read and approved. Dr. A. D. Hutton read the proposed constitution and by-laws section by section. Each section was approved and adopted with recommendation for changes as applied to this society.

A letter from the Medical Society of Virginia

was read regarding the group life insurance plan for physicians and their employees urging each physician to consider carefully this plan. Dr. A. D. Hutton, Dr. D. C. Boatwright and Dr. R. H. Harrington were appointed a committee of three to see that this program be carried out insofar as possible.

A letter from the Virginia council on Health and Medical care was read which urged every member to attend a meeting in Abingdon on December 9, at which time Dr. Philip Smith and Dr. H. B. Mulholland would present the facts and the legislative program which the council is supporting.

It was proposed that the secretary bring cards for each member of this society to fill out giving his medical history; these cards to be made a permanent part of the records of this society.

Dr. R. H. Harrington suggested that the Delegate from this society to the House of Delegates of the Medical Society of Virginia not be the same as the Delegate from the Southwestern Virginia Medical Society.

Dr. E. W. Kirby of Bluefield presented an informative and interesting paper on "Obstructive Lesions of the Urinary Tract" with lantern slides.

The meeting was then adjourned.

RICHARD C. POTTER,
Secretary-Treasurer

Virginia Peninsula Academy of Medicine.

Dr. Arthur M. Walker of Washington, D. C. addressed the Academy at its meeting on December the 15th, at which Dr. Paul Hogg of Newport News presided. Dr. Walker's subject was "Streptomycin in the Treatment of Tuberculosis". Dr. Chester D. Bradley of Newport News is secretary.

NEWS

Dates Selected for State Meeting.

In order that the hotel might be free to accept other conventions, it was necessary that the members of the Council vote by mail as to a choice of dates for the 1948 meeting of the Medical Society of Virginia in Richmond. It was unanimously decided to select the dates as October 18, 19 and 20. The John Marshall will be headquarters hotel.

Southern Surgical Association.

Dr. Frank S. Johns of Richmond, president, presided at the sessions of this Association held at Hollywood Beach, Florida, early in December. There was a good attendance with excellent representation from Virginia. Dr. Edwin P. Lehman, Charlottesville, was elected president for 1948 and Dr. Alfred Blalock of Baltimore was re-elected secretary. The next meeting will be held at the Greenbrier, White Sulphur Springs, West Virginia in December.

Dr. Sidney S. Negus,

Head of the Department of Chemistry at the Medical College of Virginia, has been appointed acting administrator of the Richmond Area University Center, succeeding Dr. George B. Zehmer. The latter has returned to the University of Virginia where he is dean of the Summer School and director of extension. Dr. Negus will continue his duties at the Medical College while directing the center's cooperative educational program.

Dr. I. M. Nuckols,

Who practiced for some years at Mount Sidney, has moved to Staunton where he is engaged in general practice and obstetrics. He is also a member of the staff of the King's Daughters' Hospital in that city.

The Seaboard Medical Association of Virginia and North Carolina

Held its fifty-second meeting at The Cavalier, Virginia Beach, December 2-4, under the presidency of Dr. O. R. Yates, Suffolk. New Officers are: President, Dr. Zack D. Owens, Elizabeth City, N. C.; vice-presidents, Drs. R. Bryan Grinnan, Norfolk, John A. Payne, Sunbury, N. C.; W. Holmes Chapman, Suffolk, and T. W. Blanchard, Hobbsville, N. C.; and secretary-treasurer, Dr. Clarence Porter Jones, Newport News, re-elected. The 1948 meeting will be held in Elizabeth City, N. C.

Married.

Dr. Robert H. Courtney, Richmond, and Miss Margaret Elizabeth Ewell, Parksley, November 29th. He is professor of ophthalmology at the Medical College of Virginia.

Dr. Rucker Honored.

Dr. Joseph Rucker of Bedford was recently awarded the diamond insignia from the Norfolk and Western Railway as a symbol of fifty or more years of service with that railway.

Dr. Alexander G. Brown, Jr.,

Richmond, Governor-General of the Colonial Wars society, was guest speaker at the fifty-fifth annual dinner of the Society in the Commonwealth of Massachusetts, which took place recently in Boston.

Are You Interested in the Group Insurance?

Enrollment in the Medical Society Group Insurance is still open and cards are being received daily. You are urged to send in your card and check immediately if you desire to be covered by this insurance. For answers to your questions about this Plan adopted by the Society write to—

MEDICAL SOCIETY OF VIRGINIA
Group Insurance Fund
1200 East Clay Street
Richmond, Virginia.

The Insurance Company can not make the insurance effective until 75% of the eligible Doctors enroll in the Plan. Prompt application for the insurance will expedite the Plan. Don't delay! Enroll Now.

Dr. F. Musgrave Howell,

Recently of Hopewell, has moved to Irvington where he will continue his practice.

Dr. Gray Is Parke-Davis Medical Consultant

Announcement has been made that Dr. J. P. Gray has joined the staff of Parke, Davis & Company in the capacity of Medical Consultant to the Sales and Promotion Division. Dr. Gray comes to Parke-Davis with an exceptional medical background. A graduate of Johns Hopkins University with an M.D. degree, and of the Harvard School of Public Health with an M.P.H., he served in public health work for many years, including posts with the United States Marine Hospital in New Orleans, the state of California and the city of San Francisco, and the Michigan Community Health Project of the W. K. Kellogg Foundation. He also is an educator, having lectured in public health at the University of California, served as dean of the School of Medicine of the Medical College of Virginia in Richmond, and also as dean of the School of Medicine, University of Oklahoma, and superintendent of the University hospitals.

New A.M.A. Handbook.

A new handbook summarizing the functions of each of the councils, bureaus and key departments of the American Medical Association is now being printed. The publication is primarily for physicians and was written to provide information and services which the association is prepared to offer its members. Copies are available upon request to the Association at 535 North Dearborn Street, Chicago 10, Illinois.

American College of Surgeons.

The College has announced six sectional meetings in 1948 as follows:

Toledo, January 20-21, Commodore Perry Hotel
Atlanta, January 26-27, Ansley Hotel
Oklahoma City, January 30-31, Oklahoma Biltmore Hotel
Denver, March 1-2, Cosmopolitan Hotel
Minneapolis, March 15-16, Hotel Nicollet
Halifax, May 17-18, The Nova Scotian

These meetings are for Fellows of the College, the medical profession at large, and hospital personnel.

Michigan Postgraduate Clinical Institute.

The Second Annual Michigan Postgraduate Clinical Institute will be held at the Book-Cadillac Hotel, Detroit, March 10-11-12, 1948. Forty-nine outstanding clinicians and lecturers will present a concentrated three-day postgraduate course covering the newest developments in medicine, surgery, obstetrics, pediatrics, dermatology, ophthotolaryngology and general practice.

Two evening sessions will be held, the Wednesday night presentation being a "question box" and the Thursday evening program being a panel discussion on "First Aid to the Acutely Injured Patient".

All members of the American Medical Association and of the Canadian Medical Association are cordially invited to attend the Michigan Postgraduate Clinical Institute. No registration fee.

Medical College of Virginia.

The fourteenth annual post-graduate course in Ophthalmology and Otolaryngology was held in Baruch Auditorium of the College, November 10 through November 13. The course was sponsored

by the Virginia Society of Ophthalmology and Otolaryngology. Following an informal dinner at the Commonwealth Club on the 11th, the Eye, Ear, Nose and Thoat section of the Richmond Academy of Medicine presented a program at the Academy Building.

Lecturers for the course included Dr. Harvey B. Haag, Medical College of Virginia; Dr. Harry P. Schenck, University of Pennsylvania; Dr. Charles D. Blassingame, University of Tennessee; Dr. Francis E. LeJeune, Tulane University; Dr. Julius Lempert, Lempert Institute of Otology; Dr. C. Stewart Nash, University of Rochester; Dr. Louis H. Clerf, Jefferson Medical College; Dr. Alfred Cowan, University of Pennsylvania; Dr. Donald Lyle, University of Cincinnati; Dr. Walter S. Atkinson, Secretary American Ophthalmological Society, Watertown, New York; and Dr. Bruce Fralick, University of Michigan.

Dr. Edwin D. Vaughan

Has returned to Ashland, having recently completed a two years study at the New York Eye and Ear Infirmary. He has offices in Professional Building, Richmond where he is engaged in the practice of otorhinolaryngology.

Southeastern Allergy Association.

The Third Annual Meeting of this Association will be held in Richmond, January 17-18, with headquarters at the Jefferson Hotel. Dr. J. Warrick Thomas, Richmond, is president, and Dr. Katharine B. MacInnis, Columbia, S. C., secretary-treasurer.

Associated With Dr. Young.

Dr. Newland William Fountain, who has just completed a residency of Ophthalmology at Edwin J. Meyer Memorial Hospital, Buffalo, N. Y., is now associated in the practice of ophthalmology with Dr. Charles A. Young of Roanoke, with offices in Medical Arts Building.

Essay Contest.

The Eighth Annual Essay Contest of the Mississippi Valley Medical Society will be held in 1948. The Society will offer a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics and education) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best. Contestants must be members of the American Medical Association who are residents of the United States.

All contributions shall be typewritten in English in manuscript form, submitted in five copies, not to exceed 5000 words, and must be received not later than May 1, 1948. The winning essay in the 1947 contest appears in the January 1948 issue of the *Mississippi Valley Medical Journal* (Quincy, Illinois).

Further details may be secured from Harold Swanberg, M. D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Illinois.

For Sale.

McCarthy Pan-Endoscope and McCarthy Visual Prostatic Electrotome. Used very little and as good as new. Write "McCarthy", care of this journal. (*Adv.*)

For Sale.

Maico audiometer three years old, in perfect condition, complete with air conductor, bone conductor, malingering and loudness balance. If interested please write to Suite 46, 1746 K Street, N. W., Washington 6, D. C. (*Adv.*)

For Rent.

New completely furnished office in Richmond for young practitioner. Available immediately. Write "Office" care the Monthly, 1200 East Clay Street, Richmond 19, Virginia. (*Adv.*)

Wanted—

North Carolina Clinic which is enlarging has two openings:

Ophthalmologist-Otolaryngologist, must be well trained;

One general Medical man with some experience in handling industrial cases.

Send reply to N. C. Clinic, care this journal, 1200 East Clay Street, Richmond 19, Va. (*Adv.*)

Opportunity,

Princeton, W. Va. Completely equipped offices and operating room. Everything modern; includes long lease and all furnishings, library and equipment on terms to suit reliable purchaser. Have retired. Dr. I. T. Peters, Princeton, W. Va. (*Adv.*)

OBITUARIES

Dr. John Bowdoin Mears,

Keller, died November 16th at the age of sixty-eight. He received his medical degree from the University of Virginia in 1901. He entered the U. S. Navy in 1906 where he remained until his retirement as Captain several years ago. Dr. Mears had been a member of the Medical Society of Virginia for forty-five years. His wife survives him.

Dr. Joseph Long Alexander,

Prominent eye, ear, nose and throat specialist of Staunton, died December 16th, at the age of seventy. A native of Stuarts Draft, he studied medicine at the University of Virginia, from which he graduated in 1900. After an internship, he practiced at Mount Solon for fourteen years, after which he took a special course in New York and then located in Staunton. Dr. Alexander was a member of his local and State medical societies, the American Medical Association, and of several civic organizations. His wife and three children survive him.

Dr. Benjamin Lewis Carter,

Prominent physician of Alleghany County, died December 7th. He had been in unusually good health and had come home from the funeral of a friend several hours before being found dead in his favorite chair by the fire. Dr. Carter was eighty-two years of age and a graduate of the Baltimore Medical College in 1893. He had practiced in Alleghany County since his graduation and was a member and secretary of the Alleghany County Board of Health. He had been a member of the Medical Society of Virginia for forty-six years. Four daughters survive him.

Dr. Elizabeth French Collins Whitehead,

Well known Norfolk physician, died at her home in Ingleside, November 27th, after having been in ill health for two years. She was seventy-three years of age and a graduate of the Woman's Medi- College of Pennsylvania in 1899. Dr. Whitehead was a member of the Medical Society of Virginia. She is survived by a son and a daughter.

Dr. Edward Gibson Brumback,

Luray, died of coronary thrombosis on August 13. He was seventy-three years of age and graduated from the former University College of Medicine, Richmond, in 1897. He was affiliated with the Page Memorial Hospital and was a member of the Medical Society of Virginia and of the American Medical Association.

Dr. Loring Hammer,

Prominent physician of Luray, died November 23rd, after an illness of six years. He was sixty-three years of age and a graduate of the Medical College of Virginia in 1909. Dr. Hammer had practiced in Luray since his graduation. He was a member of the Medical Society of Virginia. His wife survives him.

Dr. Francis Power Parker,

Charlottesville, died of a heart attack on November 26th, at the age of forty-one. He was a native of New York and graduated from Emory University in Atlanta, and was in the Medical Corps of the Army during World War II. Dr. Parker was associate professor of pathology at the University of Virginia. His wife and three children survive him.

Dr. Chertsey Hopkins DeJarnette,

Wife of Dr. J. S. DeJarnette, former superintendent of Western State Hospital, Staunton, died December 7th. She was seventy-nine years of age and graduated from the Woman's Medical College of Pennsylvania in 1894. After her graduation, she came to the Western State Hospital as an assistant physician and remained there until 1906 when she married Dr. DeJarnette. Her husband survives her.

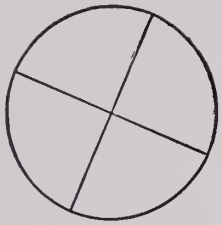
Dr. Holman Taylor,

Executive Secretary of the Texas State Medical Association, died December 5th while attending a "Flowers for the Living Banquet" given in his honor. After the dinner was over, he stopped to greet some of the guests and while talking was stricken with a heart attack and died within a few minutes.

Dr. J. E. Knight.

As we go to press, we learn with deep regret of the death of Dr. J. E. Knight of Warrenton, who has served the Medical Society of Virginia most efficiently as councilor from the Eighth Congressional District for several terms.

For medically sound reduction of overweight...



Benzedrine Sulfate—rational and accepted

BENZEDRINE SULFATE, by safely depressing the overweight patient's appetite, ordinarily curbs excessive eating. Lowered caloric intake and loss of weight naturally follow. Hence, Benzedrine Sulfate therapy is medically sound and highly effective.

Thyroid—irrational, potentially dangerous and widely condemned

In overweight, most authorities strongly condemn thyroid therapy as irrational and potentially dangerous, except in those rare instances when an accompanying hypothyroidism has been definitely demonstrated.

BENZEDRINE SULFATE—unlike thyroid—ordinarily, in the proper dosage, has no significant effect on the basal metabolic rate, blood pressure, or heart rate. Harris, Ivy and Searle,[1] after a comprehensive series of functional tests, conclude: "No evidence of deleterious effects of the drug (amphetamine sulfate) was observed."

[1]Harris, S. C.; Ivy, A. C., and Searle, L. M.: THE MECHANISM OF AMPHETAMINE-INDUCED LOSS OF WEIGHT: A Consideration of the Theory of Hunger and Appetite, J.A.M.A. 134:1468 (Aug. 23) 1947.

Benzedrine* Sulfate

Tablets Capsules Elixir **One of the fundamental drugs in medicine**

Accepted by the Council on Pharmacy and Chemistry of the AMA for use in treatment of overweight.

Smith, Kline & French Laboratories, Philadelphia

*T. M. REG. U.S. PAT. OFF. FOR RACEMIC AMPHETAMINE SULFATE, S.K.F.

SHOULD VITAMIN D BE GIVEN ONLY TO INFANTS?

VITAMIN D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

MEAD'S Oleum Percomorphum With Other Fish-Liver Oils and Viosterol is a potent source of vitamins A and D, which is well taken by older children because it can be given in small dosage or capsule form. This ease of administration favors continued year-round use, including periods of illness.

MEAD'S Oleum Percomorphum furnishes 60,000 vitamin A units and 8,500 vitamin D units per gram. Supplied in 10- and 50-cc. bottles and bottles of 50 and 250 capsules. Ethically marketed.

MEAD JOHNSON & COMPANY, Evansville 21, Ind., U.S.A.

OF MEDICINE
FEB 1948
LIBRARY
THE N.Y. ACADEMY OF MEDICINE
FEB 19 1948
LIBRARY

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Guest Editorial. H. B. Mulholland, M.D. ---------- 55

Review of Fractured Hips, M. A. Johnson, Jr., M.D., F.A.C.S., Roanoke, Va. ---------- 58

Ocular Changes in the Metabolic Diseases. I. S. Tassman, M.D., Philadelphia, Pa. ---------- 70

Streptomycin in Acute Brucellosis—A Case Report. Sidney G. Page, Jr., M.D., Meyer Perchonock, M.D., and John Powell Williams, M.D., Veterans Administration Hospital, Richmond, Va. ---------- 75

Treatment of Bacterial Pneumonias. Harry Walker, M.D., Richmond, Va. ---------- 78

Health Problems of Negroes in Richmond. Zenobia G. Gilpin, M.D., Richmond, Va. ---------- 80

Myasthenia Gravis—Two Case Reports. H. Clarkson Meredith, Jr., M.D., Clifton Forge, Va. ---------- 84

Management of Thyrotoxicosis. Elam C. Toone, M.D., Richmond, Va. ---------- 87

Two Interesting Ear Cases. Albert G. Schnurman, M.D., Roanoke, Va. ---------- 89

Coordination of Urban and Rural Public Health. C. Howe Eller, M.D., Dr. P.H., Richmond, Va. ---------- 90

Continued on page 6.

February, 1948

Several Million Americans

are probably affected by riboflavin

deficiency and not a few of them are in the highest stratum of society*

Virginia Medical Monthly

Vol. 75, No. 2
WHOLE No. 1148

RICHMOND, VA., FEBRUARY, 1948

25 CENTS A COPY
$2.00 A YEAR

GUEST EDITORIAL

The Practice of Medical Economy

THE Virginia Council on Health and Medical Care is composed of 49 agencies interested in the field of health and medical care. It was formed on January 8, 1946 with this declared purpose: "The Council shall endeavor to promote better health and medical care throughout the State by serving as a clearing house for both agencies and individuals, through coordination of effort, through education of the public, and through special projects which may be adopted from time to time as the changing needs of the Commonwealth may require."

The Council came into being through the efforts of a group of agencies interested in rural medical care, and special medical programs, which realized that some central agency was needed through which their interests in an overall health and medical care program could be pooled.

The 1948 session of the General Assembly of Virginia will have upon its legislative agenda a far-reaching program in the field of public health and medical care, that will address itself basically to the causes of the State's low standing in most of the phases of the problem. The Council will give its support to this program which will be discussed in some detail in this paper.

Considerable progress in the field of medical legislation was made at the 1946 session of the legislature, and what was then accomplished can be taken as an earnest of the genuine interest of our legislators in health problems and their desire to apply fundamental remedies. The establishment of the Bureau of Cancer Control in the State Department of Health was a progressive step. Actually, we have not had accurate statistics concerning the prevalence of cancer in Virginia, nor do we know with complete accuracy how effectively we have been treating it. We are now accurately registering cancer cases, and we shall be able to study more comprehensively the effectiveness of the treatment programs we are employing. No State that has been willing to provide for the last biennium a $600,000 fund for the hospitalization of the medically indigent on a matching basis which actually provided $1,200,000, could be said to be at all unmindful of its obligations to provide for the treatment of its citizens. The program of providing public health service in uncovered counties has also been moving along with commendable speed during the past two years. The 100 counties of the State were only 50 per cent covered on January 1, 1946. Sixty-seven of the counties are now covered, and 14 additional counties have put up their share of funds for health unit service. It has not yet been possible to open any of the units for the 14 counties that have come forward with their funds ready to match the State appropriation for operating costs, because of the shortage of medical personnel. Governor Tuck has demonstrated his interest in continuing the health and medical care program until we have stopped the great waste of public energy and the great economic loss that results from preventable illness and death.

If the General Assembly moves forward with the tuberculosis control and treatment program, so that we can approach the "irreducible minimum" in the death-rate from this disease it will not only be practicing good medical economy, but sound public economy. Tuberculosis often involves a long and costly illness, and can so strike at a home that it can disrupt the life of an entire family. The tuberculosis treatment program in Virginia has become involved in a circle of unfortunate consequences. We have had an insufficient number of beds in our State sanatoria, and though our case-finding facilities have greatly improved in recent years, we have been handicapped in getting our early cases under treatment. While the early cases have been waiting for admission to the sanatoria and effective treatment, they have too often become advanced cases. The sanatoria have also, of course, suffered from the general shortage of physicians and other trained medical personnel.

The State Health Department is recommending that the number of beds in the three State sanatoria for the treatment of tuberculosis be increased by a total of 580. Included in this number would be 300 beds to be placed in an entirely new hospital for the treatment of Negroes suffering from tuberculosis, which would be located somewhere in Eastern Virginia where the death-rate from the disease among all elements of the population is the highest. State Health Commissioner Roper has also placed in the budget of his department a sum sufficient to subsidize 100 out of a total of 535 beds in the five municipal sanatoria for the treatment of tuberculosis, so that these beds will be at all times available to State patients.

Statistically, the incidence of tuberculosis is receding year by year, while on the other hand, our aged population is increasing and, therefore, the State has made a logical approach in visualizing the use of beds now allotted to tuberculosis for chronic diseases of the aged. It is estimated that whereas we now have only approximately 9,000,000 people over sixty years of age in the population, by 1960 we shall have 15,000,000 people in the nation of this age and older.

There were, at the latest count, a total of 11,357 patients in the seven state hospitals for the mentally ill and there were only 20 physicians to treat them. This is a ratio of approximately one physician to every 600 patients. Obviously, with such a shortage of physicians and psychiatrists in our State hospital system, we can do no more than provide asylum or custodial care for the mentally ill. Dr. Joseph E. Barrett, Commissioner of the State Department of Mental Hygiene and Hospitals, has said that with adequate psychiatric treatment available, 10 per cent of the present population of the State hospitals could soon be discharged. Even more strikingly, he has pointed out that if the complement of 45 physicians and psychiatrists authorized for the seven State hospitals could by some miracle of grace be placed in service on the wards of his hospitals, it would be possible to discharge 60 per cent of every 100 patients admitted with acute psychiatric disorders within six months of their commitment, and that of the remaining admissions, 40 per cent could be discharged within the next six months.

Tremendous savings could be effected for the State in the care of the mentally ill if the State hospitals could be adequately staffed. In 1937, the State was providing a per diem of 42.4 cents per patient in the State hospitals for all care. The per diem had reached 99.9 cents per patient in 1947, but rising operating costs have actually absorbed the increased appropriation. The budget for the State Department of Mental Hygiene and Hospitals for the next biennium will be $15,000,000. The General Assembly must realize that the services of psychiatrists come high, and that it must

compete in a highly competetive market for their services. These psychiatrists will be worth far more than their services cost in the reduction of the amount of chronic mental illness in Virginia.

Dr. Barrett has made his administration of the State Department of Mental Hygiene and Hospitals notable by the emphasis he has placed upon preventive mental medicine. There are eleven mental hygiene clinics in operation in the State at the present time. The number must be increased so that the early case of mental illness can be seen and treated, before it becomes necessary to commit the sufferer to a State hospital.

The Division of Hospital Survey and Construction has just completed a comprehensive study of general hospital facilities in Virginia and has made a report recommending a long-range program to meet medical care needs in this field. The survey report, made under the auspices of the State Advisory Hospital Council, divides the State into base areas, intermediate areas and rural areas for the purpose of planning the construction of hospitals, medical service centers, and health centers throughout the State. The study was made in order that Virginia might carry on a program for the construction of hospital and medical care facilities under the provisions of the Hill-Burton Act. Under the terms of this Act, the Federal Government will make grants of one-third the initial construction costs of approved projects. The sum of $2,200,000 has been authorized for allocation to Virginia under the provisions of the Act, for the first year program of construction. If the State and localities match this Federal fund, a hospital construction program amounting to $6,600,000 will be undertaken in Virginia immediately. A five-year construction program is contemplated under the Hill-Burton Act, but the plan is essentially a long-range one and may cover a much longer period.

One of the chief reasons for the reluctance of young general practitioners to settle in rural areas of the State to practice medicine is the lack of adequate clinical and laboratory facilities. The provision of these facilities should encourage more medical students to enter general practice, and thus contribute to the solution of one of our basic problems in the whole field of medical care.

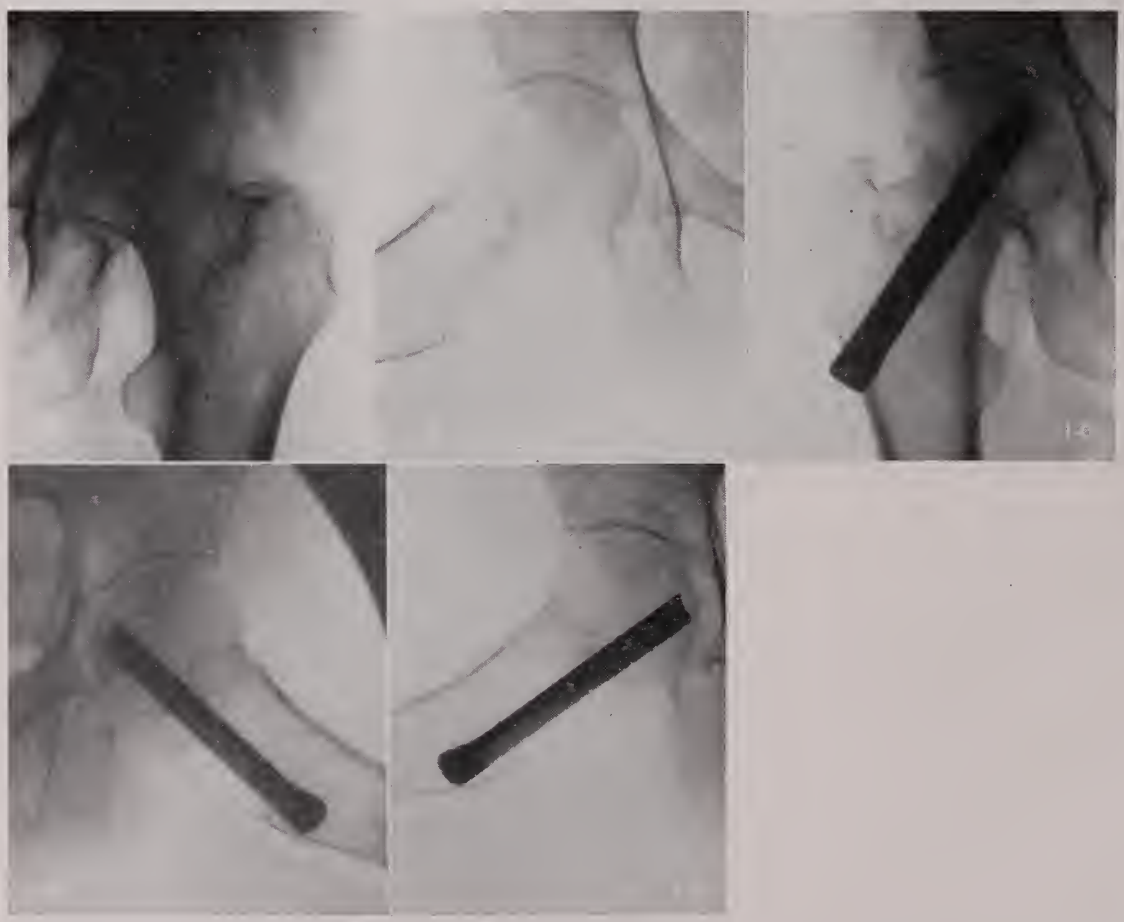
The program which has been briefly outlined above, will cost a good deal of money, and it may even necessitate an increase in taxes. Even if an increase in taxes is necessary to finance a program of adequate medical care, this will be justified in the practice of good medical economy.

H. B. MULHOLLAND, M. D., *Chairman,*
Virginia Council on Health and Medical Care

REVIEW OF FRACTURED HIPS

M. A. JOHNSON, JR., M.D., F.A.C.S.,
Roanoke, Virginia.

This is a review of the fractured hips treated at Lewis-Gale Hospital since I was discharged from the Army in November, 1945. Dr. Fred F. Davis, Dr. E. R. Troxler and I have been closely associated on these fractures. The doctor in charge of the patient seeks consultations and assistance from the other two, as he desires, but the doctor in charge of the patient takes the responsibility for the procedures and care of the injured person.



The purpose of this paper is to show by illustration some of the things which might go wrong, and why, in operative procedures for fractures of the hip; and to advance a two-pin procedure for consideration. There is no doctor who has treated fractured hips or done major surgery who does not have some cases where things were not quite right, that he could show to others, which would be more beneficial than showing perfect cases.

The January, 1947, issue of *Journal of Bone and Joint Surgery* carried several articles well worth reading—"Complications of Fractures of the Neck of the Femur", by a doctor from the Willis C. Campbell Clinic, Memphis; (2) "The Pathology of Ununited Fractures of the Neck of the Femur", by doctors from the Department of Surgery, University of Chicago, and (3) "Complications of Old Fractures of the Neck of the Femur—Results of Treatment by Vitallium-Mold Arthroplasty".

The final determination of correctness of the method of treatment cannot be made on a series of forty-four cases, as reviewed here, but the end-result can be fairly well indicated in the majority of them

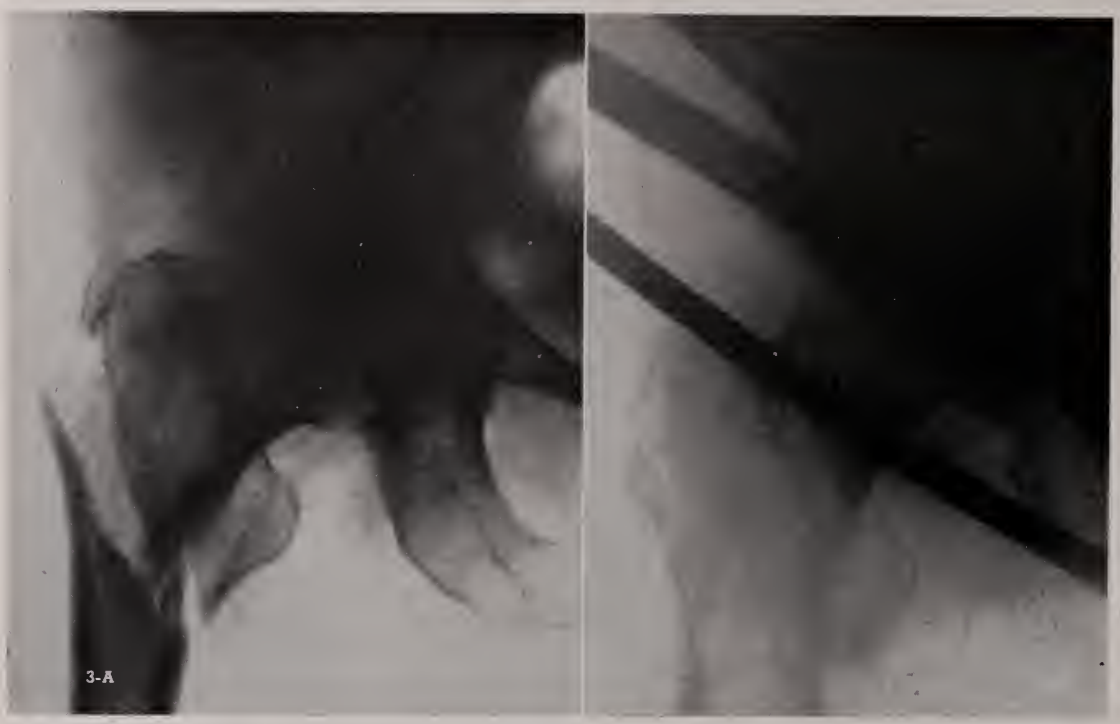
by the first few months progress. The true evaluation cannot be made until the end-result is obtained, which may be three or four years, for clinical examination and routine x-ray may show complete union in six to twelve months but another examination two years later may show absorption and disintegration of the hip.

occurred in industry. The average age not considering the child 4 years of age, was 66 years. Fifteen of these cases were above 70 years of age. Only one of those operated on was lost as a direct result of a fractured hip. This patient was 88 years of age and had a very bad heart. He was operated on in accordance with the expressed desire of his people to take a long chance on getting the patient up, which was not unreasonable for, the less chance they have to survive surgery, the less chance they have to live at all. This patient did very well for twenty-four hours and then seemed to just grow *very tired* as so many aged do, and responded to no stimuli. The greatest amount of trauma sustained in any of these cases, except for the child mentioned, was falling several steps. Ninety-one per cent of these patients were given general anesthesia, for it is believed that with heavy sedation and general anesthesia there is *less shock* to the *aged* than local anesthesia, on account of the elimi-

Here are a few facts which may be of interest. In 1946, the Industrial Clinic of Lewis-Gale Hospital treated 1435 fractures. Of this number 26 were fractured hips, or approximately 2 per cent of all fractures treated. Of the forty-four cases reviewed here, the youngest patient was 4 years old. The oldest that was operated on was 93. Seventy per cent were female. *Only one* of these fractures

nation of anxiety, fear and pain. These patients who were given local anesthesia part of the way had sodium pentothal supplemented.

Four cases were not operated on. One had an advanced heart disease, had been practically bedridden for two years and she could not be steadied from the shock of the fractured hip. She died in three days. The second had myocarditis and had



been practically bedridden with far-advanced disabling arthritis for a number of years. Medical consultants refused to agree to any operative procedure. The third was reduced by manipulation and traction; Kirschner wire was inserted in the distal end of the femur and a Thomas splint with 15 pounds traction used. She got a perfect result. The fourth was a child 4 years of age who was thrown from a jeep as it turned over. She was treated by spica cast method.

It might be said that fractured hips are comparable to delivering babies and doing appendectomies. Nothing can be easier than delivering a baby or removing an appendix; nothing can be more difficult or have more disastrous results than delivering a baby or removing an appendix, and so it is with fractured hips. An operation for a fractured hip is fraught with disaster, and creates far more tension, for the majority of the patients are elderly and have a poor health status.

The timing of an operation is very important. All of these patients are more or less in shock. With pain from injury to soft tissues and fear from the helpless eversion of the foot, they have the set-up for traumatic shock—a body injury plus fear. So shock here must be treated in the usual manner plus a reassurance (reassurance is very important when treating elderly people) to the patient that, for the majority, broken hips do get all right and that they will not be in a cast and bedridden for months. When they are first seen the necessary anodyne is given and the type of intravenous therapy started, as may be indicated. Buck's extension with about eight pounds traction is applied and a sandbag is placed against the thigh. The patient is posted for operation between 7:30 and 8:00 A. M. the following morning. Most of these cases that can be operated upon are in the best condition by that time. As a rule, each day the operation has to be postponed, after 24 hours, there is less likelihood that the patient can ever be brought to the operating table with any degree of safety. There are exceptions, such as a heart disease, which requires digitalization.

Accuracy in an operation should *never* be sacrificed for speed, is a *correct* rule. An electrocardiographic tracing is taken on all the elderly patients and, when the cardiologist warns that the patient has had a coronary or for other reasons is a poor risk, speed is the gift of God. When the risk has been great, the majority of the fractures of the neck of the femur have been done in less than fifteen minutes.

Our method of operation for a fracture of the

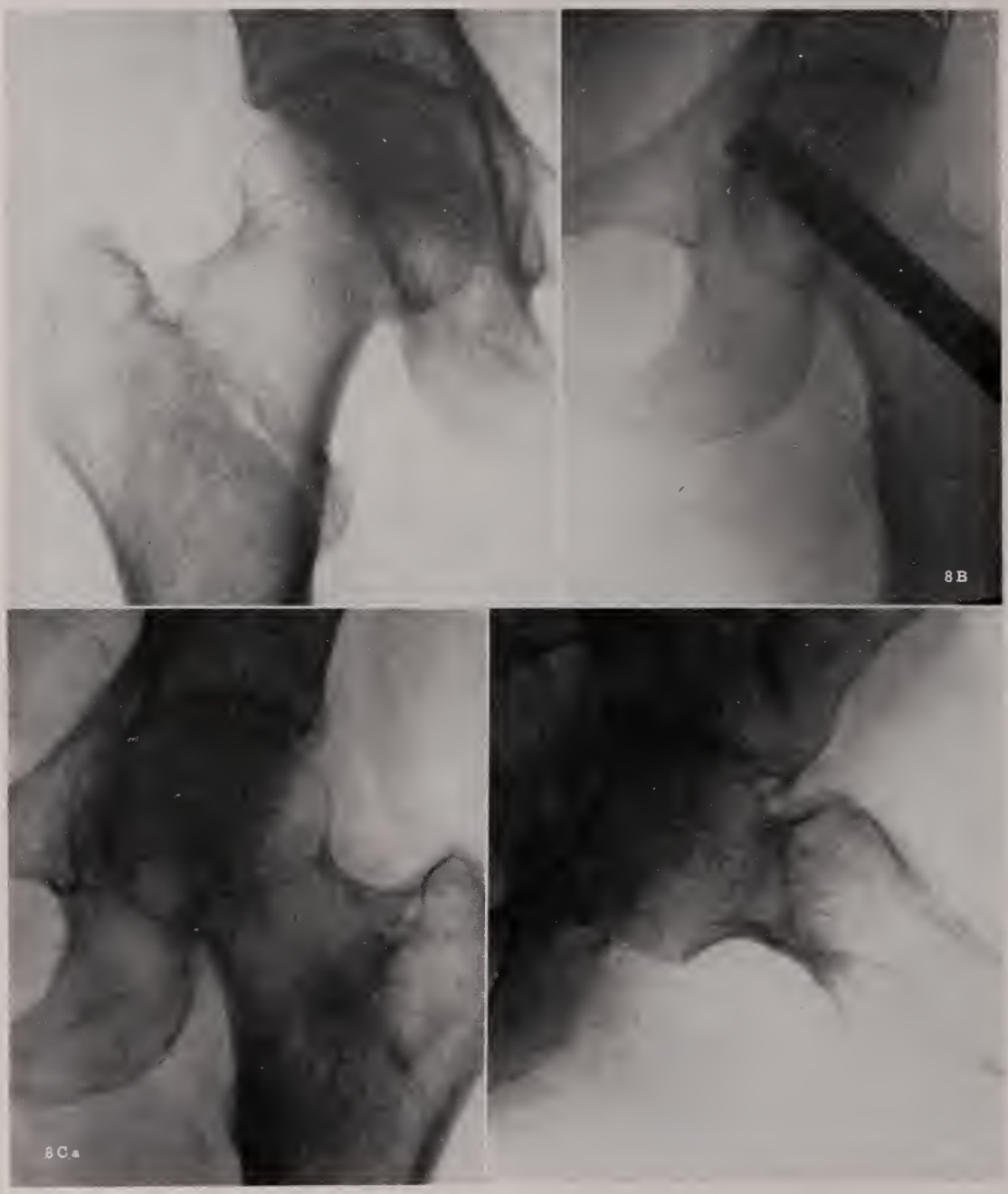
neck of the femur may be of interest. Most essential is a trained team, each one knowing his special job well. The patient is placed on the fluoroscopic table and is properly draped. An extra sterile sheet is kept to put over the wound when the fluoroscope is used. With a roentgenologist present; an orderly with years of experience with one hand on the ankle and one on the calf of the leg; an orthopedic nurse with her assistant ready; a doctor who has operated with you many times, scrubbed up; the anesthesia is started. The *complete setting* of the stage before the anesthesia is started is very important from the standpoint of efficiency and saving time. A sedative having been given the night before, another having been given two hours before operation and an opiate with atropin having been given forty minutes before operation, very little general anesthesia is necessary. The orderly carries the lower limb into internal rotation and abduction with traction and slight flexion of the leg on the thigh. Then a two or three inch incision is made at the base of the trochanter. A straight hemostat is placed in the wound on the anterior surface of the femur. Another hemostat is placed on the posterior surface of the femur and with the Smith-Petersen pin placed between the two hemostats the penetration of the

5-C

6 B

6 C

Smith-Petersen pin into the center of the femur is assured. This takes care of one angle. With the lower limb in proper internal rotation, the pin is then sighted parallel to the table for no elevation or depression is needed. Then a look is taken through the fluoroscope to determine (1) as much as possible about the reduction and (2) the exact upward or downward slant of the pin. All the angles are now taken care of. The pin is then driven through the point of the fracture into the head of the femur with another look through the fluoroscope to be sure the pin is of the right length. The anesthetist is advised to stop the anesthesia; then two or three sutures are placed through the skin, but are not tied. The White attachment to this Smith-Petersen pin is removed. It is very seldom necessary to tie off any bleeders. The limb is then carried through all motions to determine that the bite is good. The x-ray pictures are taken, lateral as well as antero-posterior pictures. The pictures having satisfied, the sutures through the skin are tied. *This* is *the procedure* when the internist *has warned* that *minutes* are *precious.* When possible, x-rays should be taken after reduction has been attempted and then again after the pin has been inserted. The time out for x-ray pictures to be taken and developed is approximately ten minutes. If the reduction is good and the pictures show there is good



bite, the pin should *never* be removed and reinserted just so as to have a good picture. There are many things which create a loss of time, such as brittle bones that will not take a pin until a drill has been used, and an usually thick hip.

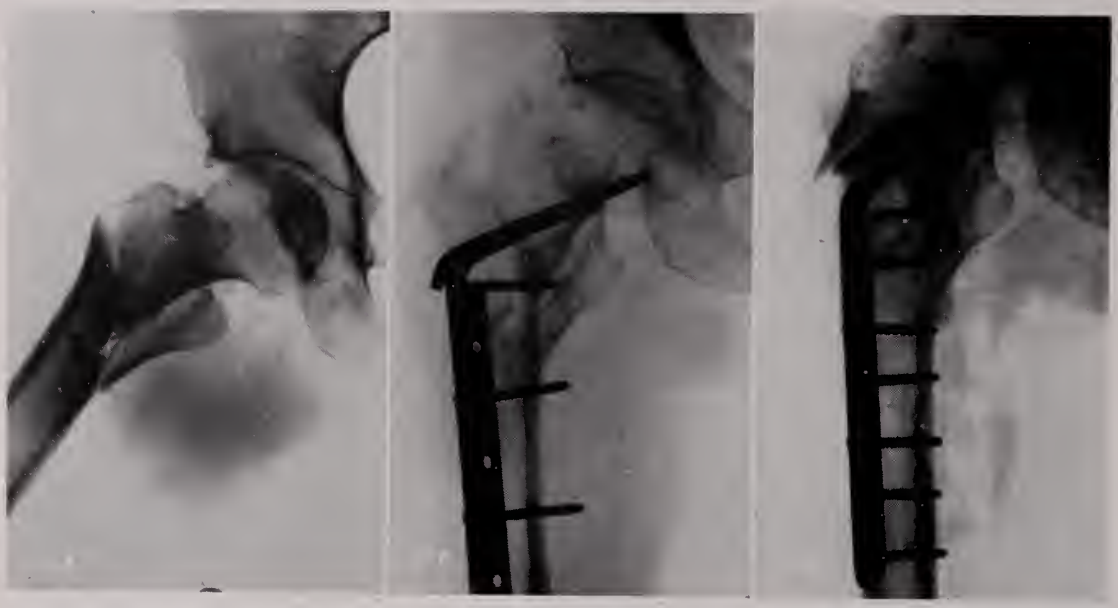
PICTURE DISCUSSION

Case 1.—This case brings out a most important point—the diagnosis. The shortening of the limb and the helpless eversion of the foot are so conclusive and so often present that the diagnosis may be missed if these classical symptoms are absent. This patient gave a history of leaning over to pet a dog, the hip gave way and she sat down. She had previously had fourteen different fractures and had become embarrassed about falling. On examination the right lower limb was carried through all motions and the only symptom she had was pain

in the right inguinal region. X-ray 1-A of the right hip was taken 9/10/46, and no evidence of fracture was found. The patient was complaining sufficiently to make it wise to hospitalize her for examination and further study. After thirty-seven days of hospital rest, we were convinced that her pain persisted, so on 10/17/46 she was re-x-rayed and on film 1-B a fracture of the neck of the femur was plainly visible. I-C, 1-D and 1-E show Smith-Petersen pin inserted. This patient had complete relief from pain and was up in a chair several days later. X-ray pictures taken this February, four months after operation, show almost complete bony union. She has always healed her fractures quickly. She walked in two months without permission. This patient's reserve was very poor, so everything was done to speed up the operation. The time from when the incision was made until the last suture was tied was 4½ minutes.

Case 2.—This case shows one of the simpler things that can go wrong. Picture 2-A shows the intertrochanteric fracture. Picture 2-B (a) is the anterior-posterior recheck after reduction and internal fixation. 2-B shows the lateral view. A Moore-Blount pin was used for fixation. These pictures show a drill broken off and left in the bone, which goes to show a drill may be imperfect, or, if perfect, may be imperfectly used.

Case 3.—X-ray 3-A shows an intertrochanteric fracture. Picture 3-B taken 32 days later shows early union. Treatment was skeletal traction by Kirschner wire inserted in the lower end of the femur. This person at the end of 90 days walked without permission. Check-up at the end of one



year showed a perfect end-result. This case is shown to bring out the fact that intertrochanteric fractures can be treated sometimes without open operation. It requires many weeks confinement to bed if skeletal traction is used; therefore, it is not the method of election if patient's general condition will permit operation.

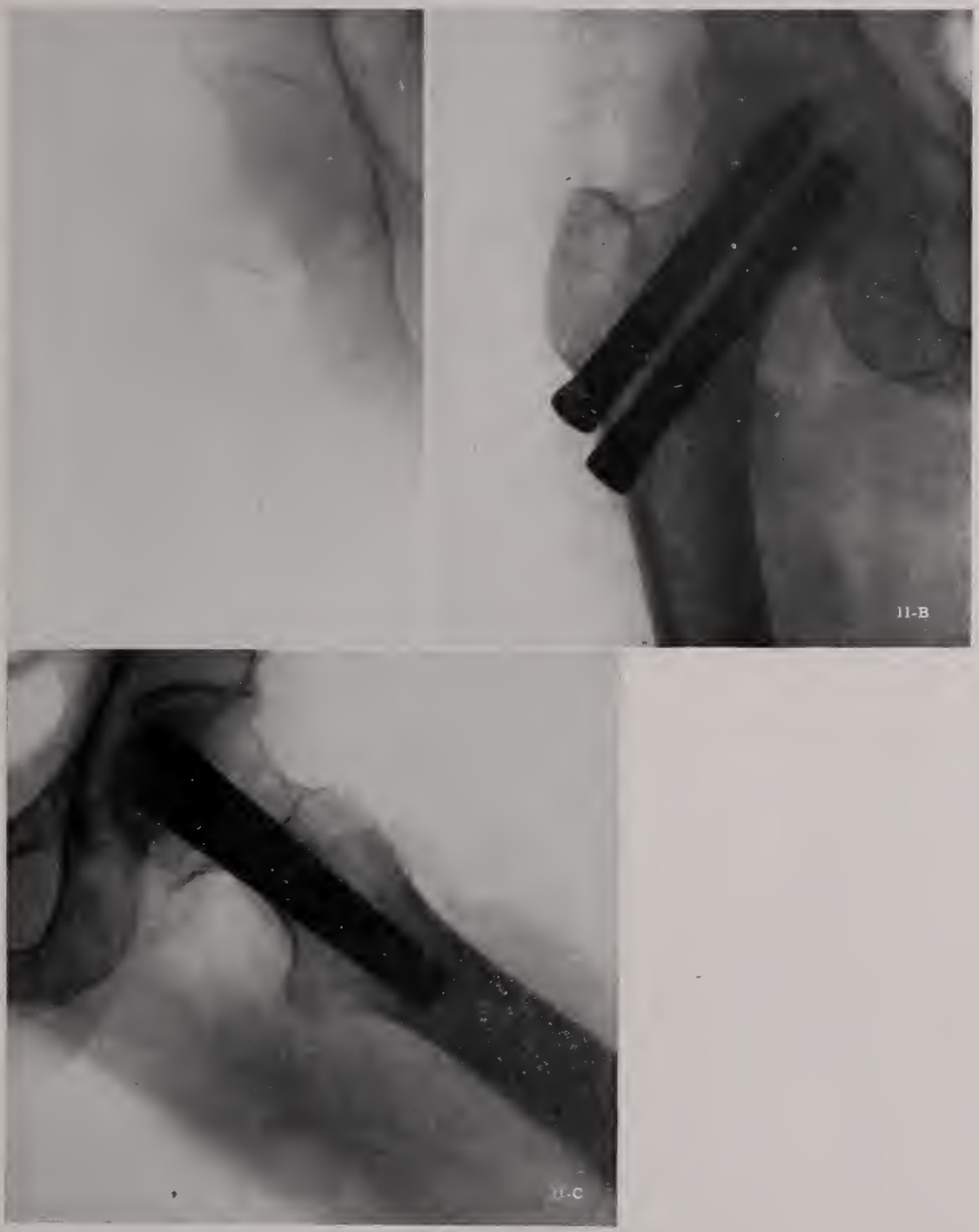
Case 4.—X-ray 4-A shows transcervical fracture of the left femur. This patient also had multiple pelvic fractures and retroperitoneal hemorrhage. This patient, age 18, was injured in industrial work. Operation was delayed from 5/2/46 to 5/10/46 on account of fractured back. A Thompson Z nail was used. Picture 4-B shows almost complete union. This patient was permitted to distribute his weight with the use of a pair of crutches and later walked without aid of crutches. Picture 4-C shows fracture when patient stumbled and fell over a log. Traction was used for six weeks, then a hip spica was applied for ten more weeks. Picture 4-D, five months after second fracture. From roentgen ray and clinical evidence, patient was dismissed for light work with no percentage permanent disability.

Case 5.—This patient was admitted to the hospital November 3, 1946; general health poor; poor heart sounds; large ventral hernia on the left, femoral hernia on the right. Intertrochanteric fracture of left hip as shown on film 5-A. Weight 300 pounds; age 70. 5-B and 5-C show Moore-Blount pin used. End of eight weeks, patient permitted to walk with aid of nurses and crutches. Patient developed empyema of gall-bladder and died 2/5/47.

Case 6.—Film 6-A (a) is AP view of transcervical fracture, left femur, 7/18/46; 6-A shows the lateral view. Pictures 6-B and 6-C, 7/19/46, show Thompson Z nail used. Patient up in wheel chair four days after operation. Six months following surgery, patient came to hospital without crutches and stated she had not used them for one month. She had full range of motion and complete healing, with no percentage permanent disability.

Case 7.—Picture 7-A shows intertrochanteric fracture. Pictures 7-B and 7-C show hip after Moore-Blount pin was used. Patient was 79 years of age; myocarditis; general anesthesia used. This picture was shown to children of this lady and one of them made the remark that one of the screws was a little out of line, but they made no remark about the length of the screws. Measurements were made for the first screw and the second screw. No further measurements were made. Screws should always go through the distal cortex; further should be avoided.

Case 8.—Picture 8-A taken 12/6/45 shows fracture of the hip. Very questionable whether Smith-Petersen pin or Moore-Blount pin should be used. Patient was 50 years of age, very feeble. Film 8-B shows poor bite but clinically bite was sufficient. Condition of patient did not warrant prolongation of anesthesia. Picture 8-C (a) shows the AP view after pin was removed on 4/22/46; 8-C shows the



lateral view. Recheck x-ray and clinical examination on 3/17/47 showed complete healing with no percentage permanent disability.

Case 9.—Transcervical fracture, right hip as shown on film 9-A, April 10, 1946. Film 9-B shows Smith-Petersen pin used. X-ray 9-C and clinical examination show almost complete union. Patient walking without permission without aid of crutches.

Case 10.—Film 10-A shows intertrochanteric fracture of left hip. Film 10-B shows a broken Moore-Blount pin and collapsed hip six months after operation and one month after patient had been walk-

ing without aid of crutches. Patient gave a history of waking during the night with pain in her hip and inability to raise lower limb. Film 10-C shows x-ray five months after second operation. It shows massive bone graft and almost complete union. Patient permitted weight bearing of approximately ⅓ of body weight only. Her first fracture resulted from falling after twisting her ankle on a gravel in her driveway. Circulation and muscle tone in this lower limb is apparently as good as in the normal one, so physical exercise will be continued, and weight bearing will not be permitted until x-ray shows practically 100 per cent union. A third disaster would be too much.

Case 11.—Two-pin. Picture 11-A shows transcervical fracture of left hip. Patient 64 years of age, in very poor health, had had two strokes, talked incoherently. Before injury, could walk only by use of crutches or holding onto furniture or to some person. Two pins were used to give patient mechanical hip to protect her as much as possible—see films 11-B and 11-C. Second day after operation, she was up in a chair and at the end of five days, she was permitted to walk as she had previous to operation. This was in August, 1946. Patient walking as well as before operation and has since first week following injury.

Case 12.—Two-pin operation. Picture 12-A shows transcervical fracture of the left hip. Patient 80 years of age; had had coronary disease. Smith-Petersen pin was easily started through the cortex, then could almost be pushed the rest of the way by thumb pressure. Her ability to heal this fracture was questioned so two pins were inserted to give a mechanical hip—see film 12-B. In one week's time she was walking with the aid of crutches and a nurse assisting. At the end of ten weeks, patient showed no union whatsoever.

Case 13.—Two-pin operation. Picture 13-A shows transcervical fracture, left hip, 10/10/46. Age 68, in very poor health, myocarditis, nephritis. Two-pin method was elected—see film 13-B. Roentgen ray and clinical examination on 2/10/47 (film 13-C) showed complete union with no percentage permanent disability.

Double or triple metal fixation of hips has often been done, but the author has not seen a report of anyone using two Smith-Petersen pins. Two Smith-

Petersen pins have given more satisfaction in this clinic than any other multiple fixation of transcervical fractures. Of course, many more cases and the elapse of much time will determine the worthwhileness of this procedure.

I hope this review has interested you because to the author there is something intriguing about these fractures which look *so much alike* but are *so different*. There is *tremendous tension* when you are doing major surgery on an *elderly* person with a *minor* health status. One knows that this is an operation which gives the patient a *chance to live,* a *chance to sit up* in a chair in a few days' time, with a *probability that they will walk again.* There is a *tremendous relief* when a fractured hip is properly nailed. The *pay dirt* is reached when a surgeon is able to get one of these elderly people off the operating table, in *good condition,* and *holds* in *his hand* an x-ray plate showing the *job properly done.* He knows that he has given *another aged person* a chance to walk again.

OCULAR CHANGES IN THE METABOLIC DISEASES*

I. S. TASSMAN, M.D.,
Philadelphia, Pennsylvania.

The disorders of metabolism, like many others, scarcely ever occur singly. Because of their close relationship and interdependence, several organs and systems of the body may present manifestations of dysfunction simultaneously. The ocular lesions therefore may also be mixed in character and at times difficult to differentiate. This is soon realized when consideration is given to the close association between the proper function of the glandular system and that of the autonomic nervous system. Then, again, certain biochemical and metabolic reactions in the body, resulting from some glandular disturbance, may affect the normal state and function of the vascular system, which in turn would also result in changes to the vessels themselves and to the structures supplied. It is therefore often difficult, not only to separate the clinical evidences of one disorder from those of another, but the ocular changes may be of a mixed character and also difficult to differentiate.

Perhaps the most important metabolic disease encountered by the ophthalmologist is diabetes. Almost any of the structures of the eye may be involved in the course of the condition but the changes in the fundus resulting from changes in the metabolism and blood chemistry are seen in advanced cases especially in the retinal vessels, along the blood vessel walls and in the adjacent retina. It is important, however, to remember that diabetes often occurs in association with such other conditions as hyperthyroidism, arteriosclerosis, vascular hypertension and nephritis. The autonomic nervous system and glandular function might therefore be of some importance in relation to the occurrence of these various conditions.

From the ocular standpoint in particular, the autonomic nervous system bears a close relationship to the function of the endocrine glands as well as to metabolism. The parasympathetic system controls the ciliary muscle and with stimulation it causes contraction of the pupil, increase in the accommodation of the eye, and lacrimation. The sympathetic system governs the dilator pupillae muscle, the unstriped muscle fibres in the levator palpebrae superioris which elevates the upper lid, and the smooth muscle fibres (Muller's muscle) at the back of the eye, which are said to push the globe forward. Therefore, stimulation of the sympathetic produces decreased lacrimation, dilation of the pupil, retraction of the upper lid and proptosis or exophthalmos. A destructive lesion of the sympathetic therefore leads to constriction of the pupil by the unopposed fibres of the sphincter pupillae, drooping or ptosis of the upper eyelid and sinking or retraction of the eye, enophthalmos, as seen in Horner's syndrome.

Over-stimulation of the sympathetic system has been described as the cause of the ocular manifestations of hyperthyroidism, such as exophthalmos and its accompanying signs. Conversely, the opposite action in hypothyroidism has been said to cause the enophthalmos, conjunctivitis and decreased lacrimation. The function of the thyroid gland is to manufacture the hormone thyroxin which is carried to the nucleated cells of the body by the circulation. A sufficient amount of iodine is necessary for its formation. With a decrease in the function of the thyroid, the oxygen consumption or basal metabolic rate falls to about minus 40 per cent.

Hyperthyroidism or hyperfunction of the thyroid is often accompanied by goitre and exophthalmos. The latter is characterized by a state of accelerated tissue oxidation and increased activity of the autonomic nervous system. Hyperglycemia and glycosuria may occur in hyperthyroidism associated with diabetes. Thyroxin and epinephrine seem to produce a tendency for increase in the blood sugar.

Dysfunction of the pituary gland, also, cannot always be separated from that of the thyroid and from the changes occurring in other dependent structures. It must be remembered that included among the hormones of the anterior lobe of the pituitary is the thyrotropic hormone which influences the function of the thyroid and also an adrenotropic hormone which acts on the cortex of the adrenal and, when deficient, it causes atrophy of the adrenal cortex. The posterior lobe extracts have a marked pressor action on the blood pressure, which is considered to be produced by an intermediary action

*Read by invitation before the Virginia Society of Ophthalmology and Oto-Laryngology at its annual meeting at Virginia Beach, May 10, 1947.

of the adrenal gland. Another action is its antidiuretic effect which is employed therapeutically in the treatment of diabetes insipidus.

A deficiency of both lobes of the pituitary is said to result in the condition known as Frolich's syndrome, characterized by a girdle type of obesity and sexual underdevelopment. The metabolic rate is somewhat decreased and there is an increased carbohydrate tolerance. The Frolich type of obesity, when present with retinitis pigmentosa in patients who exhibit a lowered mentality, constitutes the Laurence-Moon-Biedl syndrome. The retinal condition here also has been said to be due to hypofunction of the pituitary but this has never been definitely determined.

The internal secretion of the pancreas is considered to be insulin, which is concerned with the control of carbohydrate metabolism. Variations in the quantity of insulin produce changes in the concentration of blood sugar and when these changes occur suddenly, pyogenic infections, changes in the lens, and refractive changes may occur in the eyes. Variations in the amount of insulin with changes in the blood sugar concentration may also lead eventually to changes in the retinal vessel walls, hemorrhages in the retina and in the vitreous of the eye. The hormones of some of the other glands, such as pituitrin, thyroxin and adrenalin, may directly or indirectly have an antagonistic action to insulin and tend to balance the blood sugar level.

Arteriosclerosis is often associated with diabetes but it is very doubtful that it has any importance as a causative factor. Since diabetes is a disease occurring chiefly in middle life, it is seen at an age when arteriosclerosis might be otherwise present. It may develop earlier, however, in a diabetic patient than in others. There appears to be an excess of lipoid in the blood with an excess of lipoid also contained in the intima of the larger arteries. There is apparently little difference fundamentally, however, between the arteriosclerosis in diabetes and that which occurs without diabetes. Because of the common association of retinal arteriosclerosis in cases of diabetes, the number of those with retinal lesions far surpass those which reveal other manifestations.

The degree of relationship of some of the eye manifestations to the age of the patient, the use of insulin, and the blood sugar concentration is also of interest. It has been frequently stated in the past that ocular lesions are not as common in young diabetics as in older patients. This is probably due to the fact that the disease is so far of shorter duration, and retinal lesions, especially, will be seen if the case is followed long enough. The role of insulin in the production of retinal hemorrhages in diabetes has received considerable discussion but there does not appear to be any correlation between the use of insulin and the occurrence of lesions. However, it has been found in a number of instances, that proper treatment and control of the diabetes with cooperation of the patient has a tendency to limit the occurrence of ocular lesions, especially the retinopathy.

The blood sugar level at any one time bears no definite relationship to the occurrence of ocular lesions. Sudden changes in the blood sugar, however, and marked changes over a period of time may be a factor in the production of ocular changes. Changes in the refraction of the eye which occur rather suddenly are not uncommon in known diabetics. The vision which had been previously corrected to normal may suddenly decrease or smaller changes in the vision over short periods of time may occur which require frequent refraction and change of lenses. Although the cause is not known exactly, this is considered to be due to the effect of the sugar concentration on the refractive index of the crystalline lens. An increase in the blood sugar concentration is said to produce an increase in the myopia, whereas a decrease in blood sugar is accompanied by an increase in hyperopia.

The accommodation of the patient may also be weakened or below normal in the diabetic of long duration and paralysis of the extraocular muscles is not uncommon. The lateral rectus muscle is most commonly involved and, although no exact explanation is available, it is customary to consider this as the result of a toxic condition. The paralysis may persist for a long time but it may improve to some extent with improvement in the general condition.

The most common diabetic changes in the iris occur in the pigment epithelium characterized by edema, swelling and degeneration with the liberation of free pigment. The stroma in some rare instances may also become edematous and atrophic. In cases of long standing, atrophy of the iris can be noted in detail on slit lamp examination. Newly formed blood vessels may also be found on the iris in such cases near the pupillary border. The condition is non-inflammatory and is known as diabetic rubeosis. Iritis in diabetes is not very common.

However, if it occurs in such a patient as the result of some intercurrent condition, it might be severe.

The presence of lens opacities and cataract in patients with diabetes is, of course, very common. This is true especially of the older patients, many of whom are within the age group in which cataract ordinarily occurs. A great many are also known to have arteriosclerosis.

In children with diabetes, cataract is observed with comparative less frequency. However, O'Brien and Allen,[1] in a study of 260 cases of diabetes in patients under 21 years of age, found 36, or 13.8 per cent, with lens changes. The patients were observed over a period of years and diabetes was considered to be the cause of the lens changes only when the opacities were of the snowflake or subcapsular variety and in which there was definite increase in the opacities. In each case in which diabetic cataracts were found the diabetes had been poorly controlled or uncontrolled for several months or years preceding the development of the lens changes.

The relationship of hyperglycemia to the development of cataract was explained as subjecting the lens to a higher concentration of sugar in the surrounding fluids. This might have an effect over a period of years. The development of cataract in diabetes certainly appears to have a closer relationship to the duration than to the severity of the disease. When the cataract has reached the stage of maturity, operation for removal can be performed just as in any other case, but the diabetic state of the patient should be under control. The danger of complications in these cases is somewhat greater, however, especially from post-operative iritis and iridocyclitis. Moreover, when advanced arteriosclerosis or hypertension is present, there is an added danger from post-operative intraocular hemorrhage.

The most pronounced manifestations of diabetes in the eyes are to be seen in the retina on ophthalmoscopic examination. The optic nerve head is scarcely ever involved in the average case. The margins are usually well outlined and color normal, except in some very late cases in which the color may become waxy pale. The characteristic lesions in the retina consist chiefly of hemorrhages and yellowish white spots which are commonly spoken of as exudates. These spots or patches are found principally at the posterior pole of the fundus and are less prominent in the anterior portion. They appear to be white at first but later assume a glistening or waxy yellow color. Their edges are rather well demarcated and have the appearance of being hard patches in contrast to the whitish cotton-wool exudates with fluffy margins commonly seen in the retinitis of nephritis. The diabetic patches also have a tendency to arrange themselves around the macular region in the form of a circle as seen in circinate retinitis. They are not the result of an inflammatory process, but are considered to be degenerative, with deposits of hyaline and cholesterol in the retina.

The hemorrhages occur in the deeper layers of the retina, usually in association with the patches, and present a picture which is diagnostic of a diabetic retinosis. In the typical case, they are small, round or oval, and are usually sharply outlined. There may be very few in number at first and they might be difficult to observe. On close observation, however, one or two may be seen as petechia near the ends of the arterioles or capillaries. Later they may appear slightly larger and round under the retinal vessels in the deeper layers. In some cases, especially those of longer standing, larger hemorrhages may occur and even pre-retinal hemorrhages may be seen. In a few instances, a proliferating retinitis may occur, which is characterized by fine, thin connective tissue bands in association with newly formed vessels. The new blood vessel formation in these cases of diabetes was described by Klien[2] as the primary formation, the delicate connective tissue formation being secondary, in contradistinction to the formation of connective tissue which precedes new vessel formation and which was considered to be a different type of proliferating retinitis.

The cause of the retinosis in diabetes has received a great deal of attention but as yet it is not generally well understood. It is perhaps agreed that the presence of retinopathy in diabetes does not depend on the severity of the disease, but rather on the prolonged duration of the hyperglycemia, even in mild cases. Elwyn[3] explained the pathogenesis of the exudates as the result of insufficient nutrition and inadequate oxygen supply to the retina with subsequent deposits of hyalin and lipid in those areas affected. The cause of the small, deep hemorrhages, however, was more difficult to explain. Elwyn disregarded the presence of sclerosis of the retinal vessels as a factor. He explained their presence by diapedesis through the capillary walls. Dilatation

with slowing of the blood in the capillaries results in a condition of pre-stasis. The small hemorrhages could be explained by the passage of red blood cells through the soft vessel walls. Although the cause of the pre-static condition in diabetes is not known, Elwyn feels that in some way it is produced by a state of continuous mild hyperglycemia over a period of years. He eliminated the possibility of toxic substances as a cause by the fact that thus far none have been found, and the possibility of a vitamin deficiency is eliminated because no specific deficiency is known to be associated.

In discussing the retinal lesions occurring in diabetes, Friedenwald[4] also recently called attention to what he termed small aneurysmal sacs which were connected with the capillaries. These were often found to be incompletely lined with endothelium and indicated that the leakage of blood occurred first; the endothelial growth occurred later to cover it. This endothelial sac formation surrounding the petechia in the retina was also described previously by Balantine and Lowenstein.[5]

The initial persistence of petechia followed by enclosure from an ongrowth of endothelium suggested that the process developed from a break in the capillary wall, followed by the slow leaking of red corpuscles. The outgrowth of endothelium surrounding the mass of extravasated red cells resulted in the formation of a small saccular aneurysm. The presence of the hard white exudates was also explained as the result of smaller breaks in the capillary walls, through which only plasma without red cells escapes. Friedenwald also confirmed the fact that patients with diabetic hemorrhagic retinitis show increased capillary fragility and that the retinitis is undoubtedly a manifestation of a general capillary abnormality, although its relationship to the metabolic disturbance of a diabetic is still unexplained. He stated that local atherosclerosis in the retina is not responsible for the retinitis and that there is little evidence to support the hypothesis that diabetic retinitis is an atherosclerotic manifestation.

I have under observation at the present time, a female patient, age 23, who has had diabetes for 20 years. Both eyes reveal an extensive diabetic retinopathy with numerous petechia and capillary hemorrhages surrounded by the thin veil-like connective tissue formation described in these cases. On ophthalmoscopic examination the retinal arteries in this patient show, however, none of the signs of sclerosis, but she did show an increased capillary fragility. Notwithstanding the extensive and advanced retinal changes and the long duration of the disease with a fluctuating hyperglycemia, ranging as high as 350 even under treatment, the lenses in each eye are clear. Although the retinal arteries show no marked sclerotic changes, the retinal veins are distended, tortuous, and some were ruptured, with extravasations and a large pre-retinal hemorrhage in the left eye. Bands of proliferating connective tissue could be seen along the course of the vessels and enveloping some of the petechia at the ends of the vessel similar to that described by Klien and later, Friedenwald.

Evidence to support the fact that sclerosis of the vessels is an important factor in the production of the retinal lesions was presented at different times by Agatston,[6] O'Brien and Allen[7] and also Gibson and Smith.[8] Gibson and Smith found the most advanced and most progressive form of the medial type of venous sclerosis in patients with diabetes mellitus. Moreover, it was, to some extent, the duration of the disease and not the age of the patient which determined the presence of phlebosclerosis. It is also felt that retinal phlebosclerosis is becoming more frequent because of the longer life of the diabetic patient today. It usually runs a mild, chronic, progressive course. The blood sugar concentration is not necessarily high. For these reasons it is considered that some change in a metabolic product resulting from the carbohydrate metabolism disturbance, and not the hyperglycemia, is responsible for the vascular changes.

When hypertension, renal disease or both of these conditions are associated with diabetes, the retinal picture is altered and mixed. The retinal arteries may now show distinct evidences of arteriosclerosis and hypertension. Hemorrhages may also be seen here in the superficial layers of the retina. They may be linear or streaked in appearance and of various sizes. With nephritis, there may be found the white, soft, cotton-wool exudates and the star-shaped infiltration around the macula. Here, the optic disc may also show edema of varying degrees and edema may also be found in the retina. While these added conditions serve to present a mixed picture in the retina, the ophthalmoscopic evidences of diabetes may still be recognized. In the latter condition, the size, appearance and location of the retinal hemorrhages, together with the appearance, location and

arrangement of the retinal exudates, present a picture which is characteristic of diabetes.

REFERENCES

1. O'Brien, C. S., and Allen, J. H.: Ocular Changes in Young Diabetic Patients. Trans. of Sect. on Ophth. *A.M.A.*, 1942.
2. Klien, Bertha: Retinitis Proliferans, *Arch. Ophth.* **20**:427, September, 1938.
3. Elwyn, H.: Diabetic Retinitis, *Arch. Ophth.* **34**, No. 3, September, 1945.
4. Friedenwald, Jonas S.: Disease Processes *versus* Disease Pictures in Interpretation of Retinal Vascular Lesions, *Arch. Ophth.* **37**, No. 4, April, 1947.
5. Balantine, A. J., and Lowenstein, A.: Retinal Micro-Aneurysms and Punctate Hemorrhages, *Brit. J. Ophth.* **28**:593, 1944.
6. Agatston, S. A.: Clinicopathologic Study of Diabetic Retinitis, *Arch. Ophth.* **24**:252, August, 1940.
7. O'Brien, C. S., and Allen, J. H.: Unusual Changes in the Retinal Veins, *Arch. Ophth.* **24**:742, October, 1940.
8. Gibson, G. G., and Smith, L. W.: Retinal Phlebosclerosis, Trans. Sect. Ophth. *A.M.A.*, 1941.

Medical Arts Building.

Floral Eponym (59)

SEQUOIA

SEQUOYAH OR GUESS, GEORGE, 1770-1843

"THINK of the lordly monument of the sequias, named for a half-breed Indian, a modern Cadmus of the Cherokees, language maker, teacher, something of a medicine man, whose name was George Guess." (*Doctors and Gardens*). Guess was born in the Indian town of Taskigi, Tenn. His father was possibly Nathaniel Gist, a trader who abandoned the mother, a woman of mixed Indian blood, before the birth of the child. During childhood the youth seems to have borne only his Indian name. Later he took that of his father, which he understood to be Guess. For some years he was a hunter and fur-trader, but an accident crippled him for life. He then took up the making of silver ornaments. From 1809 to 1821 he worked on a Cherokee alphabet, and in 1822 he visited the Western Cherokees in Arkansas, in order to interest them also in the alphabet. He removed with them to Oklahoma where his alphabet stimulated the printing of books and a newspaper in the Cherokee language. His statue was placed by the State of Oklahoma in statuary hall in the capitol in Washington.

Sequoia is a genus of pinaceous trees consisting of two species. S. gigantea, the big tree of California, is the largest coniferous tree in the world. It is thought to be also the oldest living thing. S. sempervirens, the redwood, has a smaller girth than the big tree but attains as great a height.

STREPTOMYCIN IN ACUTE BRUCELLOSIS— A CASE REPORT*

SIDNEY G. PAGE, JR., M.D.,
MEYER PERCHONOCK, M.D.,
and
JOHN POWELL WILLIAMS, M.D.
Veterans Administration Hospital,
Richmond, Virginia.

The status of streptomycin therapy in the treatment of Brucella abortus infections is unsettled. Chester Keefer has recently stated that chronic infections with Brucella organisms have shown poor response to the use of streptomycin. In his experience, even though the Brucella infections have shown improvement, post-treatment blood cultures have been positive in many instances. Jones, Metzger, Schatz, and Waksman found that streptomycin protected chick embryos against infection with Brucella abortus organisms, while Live, Sperling, and Stubbs found streptomycin in adequate doses to be bacteriostatic in experimental Brucella abortus infections in guinea pigs.

Recently, Keefer *et al* reported inconclusive results in 45 cases of Brucellosis treated with streptomycin.

This case is reported as an instance of proven Brucella abortus infection of ten weeks duration before treatment with streptomycin in which there was an apparent clinical cure without return of signs or symptoms for a period of five months following treatment.

Inasmuch as there is little knowledge at present regarding the efficacy of streptomycin in reducing the relapse rate in Brucellosis, this case report is offered as a case favorably influenced by streptomycin.

J.W.M., a 22 year old white veterinarian, was admitted to the Veterans Administration Hospital, Richmond Virginia, on May 9, 1946. Five to six weeks prior to admission, he noted the onset of headaches, moderate fever with malaise, nausea, and slight constipation. He continued his normal work in the mornings, but extreme malaise and fatique necessitated resting in the afternoon.

About three weeks prior to admission, he noted the onset of daily shaking chills and generalized aching late in the afternoon with temperature elevations to about 103°. In the mornings, however, he felt quite well. During this three week period, he lost about 15 pounds in weight. At this time, an agglutination test was reported positive for Brucellosis in a dilution of 1:6400. About six days prior to admission, the patient received an injection of Brucella anti-serum intramuscularly without any apparent effect in his clinical condition. The patient had recently been engaged in the manual removal of placentas from bovines infected with Bang's disease.

Physical examination on admission was essentially negative except for temperature of 99.4°, the blood pressure was 118/75, pulse 90, respiration 20. There was no evidence of lymphadenopathy, splenomegaly, orchitis, or joint swellings.

Hospital Course and Treatment: The patient had daily afternoon shaking chills for 20 days following admission with the fever frequently spiking to 104°. For the first eight to ten days, the patient felt relatively well in the mornings but at night complained of generalized aching, joint pains, and burning on urination. From the 11th hospital day the patient had 10 days of marked nausea anorexia. and occasional vomiting. He lost an additional 15 pounds in weight during his first 20 days in the hospital. From the 21st to the 27th hospital day, there was a slow downward curve in the temperature peak, chills disappeared, and the patient began to improve subjectively.

Intramuscular streptomycin therapy was begun after Brucella abortus had been isolated from blood culture. The organism was sensitive to 12.5 units per c.c. of streptomycin in vitro. The schedule of streptomycin was as follows: 0.5 grams (500,000 units) every two hours for three doses followed by 0.3 grams every three hours thereafter until a total dosage of 44.1 grams was administered in 19 days. Skin sensitivity test to streptomycin was found to

*Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

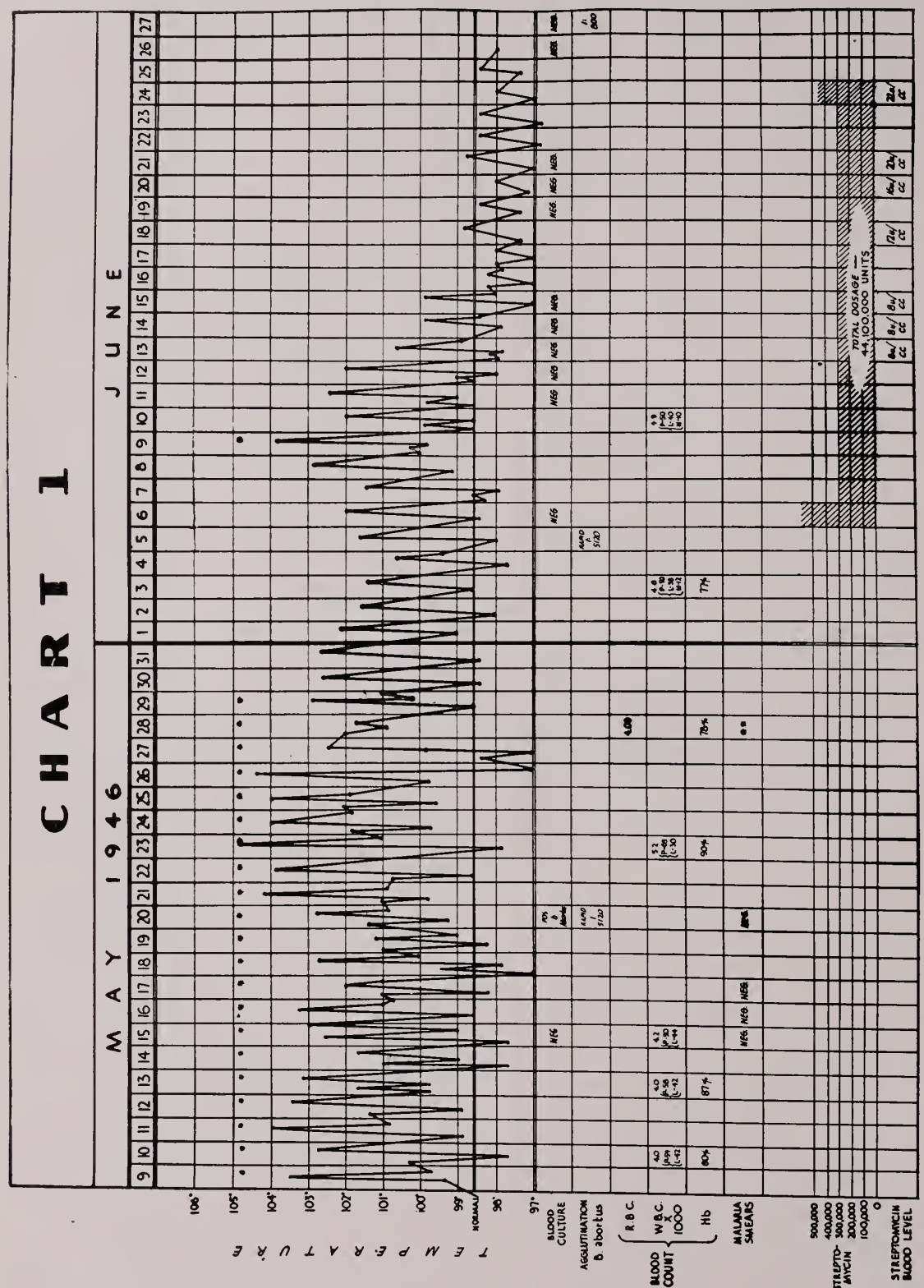


CHART I
MAY 1946
JUNE
TEMPERATURE
BLOOD CULTURE
AGGLUTINATION B. abortus
BLOOD COUNT
R.B.C.
W.B.C. X 1000
Hb
MALARIA SMEARS
STREPTOMYCIN
STREPTOMYCIN BLOOD LEVEL
TOTAL DOSAGE 44,100,000 UNITS
Legend:
CHILL
B. Abortus SENSITIVITY 12.5u/CC

be negative and it was then administered according to the following schedule: 0.5 grams streptomycin was dissolved in 1.5 c.c. of normal saline plus 1.0 c.c. of 1% novocaine in saline solution. The addition of novocaine minimized the pain at the injection site.

Streptomycin was begun the 29th hospital day and four days later the fever began to subside, reaching normal on the 11th day of therapy. This was the first afebrile day since the onset of his illness ten weeks previously. He continued to improve and left the hospital on his 50th hospital day. A subsequent report five months later revealed that the patient had returned to work and had regained his normal weight without return of signs or symptoms of the disease.

Laboratory: R.B.C. was 4,100,000 with 80% to 90% hemoglobin throughout hospital stay; W.B.C. ranged from 4,000 to 5,200 with about 54% neutrophiles and 42% lymphocytes; Kahn was negative; repeated urinalysis before, during, and after streptomycin therapy were negative. Serum agglutinations for Brucella abortus were positive 1:6400 prior to hospital admission, twice positive 1:5120 in the hospital, and one week prior to and on day of discharge from hospital the titers were 1:800. Six weeks following discharge, the titer was still 1:800. Stool examinations and malaria smears were negative. Blood culture was positive for Brucella abortus on May 20th and was repeatedly negative after beginning streptomycin therapy. Streptomycin blood levels ranged from eight units per c.c. on seventh day of therapy to 22 units on 18th day of therapy.

Conclusions: (1) A proven case of acute Brucellosis caused by Brucella abortus treated successfully with streptomycin is reported.

(2) This patient has had no relapse or return of signs and symptoms for five months following streptomycin therapy.

Since submitting this paper for publication, five additional cases of brucellosis have been treated with streptomycin for approximately thirty days with favorable results.

National Blood Program.

The first unit of a national network of Red Cross blood centers was opened in Rochester on January twelfth.

In response to the growing need for blood in medical practice the American Red Cross has launched a new National Blood Program designed to furnish whole blood and, in time, a variety of blood derivatives required in disease prevention and the treatment of the ill and injured. The new program is long range in its aspects and it is anticipated that from three to five years will be required to bring it to full development. The program is an outgrowth of the cooperative wartime program of the Red Cross, the armed forces and the National Research Council. It has been launched after consultation with leaders in the medical profession, hospital associations and public health officials.

Plans call for the eventual establishment of 140 metropolitan centers throughout the country, with 250 secondary centers in smaller communities and several hundred mobile units to serve rural and suburban areas.

The entire cost of collecting, processing and distributing the blood will be borne by the Red Cross. Blood will be collected from voluntary donors and given without charge to patients, the only cost to the patient being the usual medical or hospital fee in connection with the administration of blood.

The opening of the Rochester Regional Center will be followed by the immediate establishment of centers in Wichita, Kans., Atlanta, Ga., Louisville, Ky., Washington, D. C. and Stockton, Calif. It is expected that by the end of this year 50 regional centers will be in operation.

TREATMENT OF BACTERIAL PNEUMONIAS*

HARRY WALKER, M. D.,
Richmond, Virginia.

The first step in the ideal treatment of pneumonia would be to establish the bacterial cause of the disease, and, whenever possible, this, of course, should be done. However, this is not always practical for several reasons. One reason is that you can't always collect a specimen; the second is that facilities are not always available to identify the organism; and, then, another reason is that unfortunately time is lost in a lot of instances which may be dangerous to the patient. For those reasons, the old classification of pneumonia on an anatomical basis—that is, lobar and broncho-pneumonia—is still of some practical value, since lobar pneumonia is due in 95 per cent of the cases of either the pneumococcus, the streptococcus, or the staphylococcus, while broncho-pneumonia, on the other hand, is more apt to be due to mixed infections.

Now as to the treatment of lobar pneumonia, we have two drugs, which are invaluable in the management of this disease. These two drugs, of course, are penicillin and derivatives of sulfanilamide. The most effective sulfanilamide derivative is thought to be sulfadiazine. Because of its ease of administration, its general effectiveness, its relatively low toxicity, it is the drug of choice in this field. At first the initial dose should be four grams, or you can use two grams every two hours for two doses. In other words, you don't have to use four grams as an initial dose, you can divide it up every two hours. Either way that you begin treatment, it should be followed by one gram every four hours around the clock. That refers to oral administration.

The drug can also be given intravenously if a sodium salt is used. There are two methods which can be used when the intravenous method is used. One is to give five grams of sodium sulfadiazine in 100 c.c. of water intravenously every twenty-four hours. Another method is to give two and one-half grams in 50 c.c. of distilled water every twelve hours by the intravenous route. These doses keep the blood level at from ten to twelve mg. per cent on the average. In either way that it is given, (oral or i.v.) the drug should be continued from forty-eight to seventy-two hours after the temperature comes to normal.

Sulfadiazine, however, is not without danger. In fact, reactions occur in about 10 per cent of all cases. The two most important reactions, of course, are those related to the kidney, in which you have hematuria due to the formation of crystals. It has been said that sodium bicarbonate, two grams, given three to four times a day, tend to prevent this particular complication. Probably a more important way of preventing it is to see that the urinary output exceeds fifteen hundred c.c. every twenty-four hours; this I believe is much more important than sodium bicarbonate.

The other reactions, such as rashes and urticaria, are sometimes benefited by calcium gluconate by mouth, or by calcium chloride intravenously. As for blood reactions, these usually do not occur until the drug has been given for a period of five days, and, when they do occur, the best method of managing these patients is to stop the drug. Because of these toxic reactions and because of the fact that the price of penicillin has declined, this particular drug is becoming more generally used in the treatment of pneumonia. It certainly should be used in lobar pneumonia when there are toxic reactions of any kind from the sulfadiazine. Furthermore, it should be used when there is any extension of the pneumonic process. It should also be used when there is any evidence of pleural infection, and any evidence of foci of infection elsewhere in the body, due to the organism which is responsible for the pneumonia, and, of course, it should be used in all cases which have renal disease.

The way this drug is administered is 30,000 units as an initial dose, followed by 20,000 units every three hours, either intramuscularly, or intravenously, or it can be given in 200,000 or 300,000 unit doses in beeswax and peanut oil daily or it can be given by mouth, a way in which I have had no experience. It is said, however, that only about one-fifth is utilized by the body if taken by mouth; therefore, the dosage when taken orally would be approximately 200,000 units for the first dose and 100,000 thereafter every three hours.

*Read at the Symposium on Therapy, February 18-19, 1947, Medical College of Virginia, Richmond, Virginia.

Now, one point about the duration of the continuation of the drug. If you are dealing with a streptococcic pneumonia, it is thought best to continue this drug for one week to ten days after the temperature has returned to normal. In fact, some authorities advocate the continuance of this drug for a period of two weeks in streptococcic pneumonia after the temperature returns to normal. With these drugs (sulfa derivative and penicillin) much has been accomplished in the treatment of lobar pneumonia. For example, hospitalization has been cut about one-third. Nursing care has been reduced at least one-half in a majority of patients, and the expense of oxygen and other adjunctive therapy has also been decreased. In addition, the mortality rate has been reduced from approximately 25 per cent to 8 per cent. When we analyze these 8 per cent who die, we find that possibly there is some way in which this figure can be further reduced. However, it is not as much as you would think at first hand. The reason it cannot be reduced much further is, first of all, one class of failures are those pneumonia patients who have some other disease and the pneumonia is merely an incidental finding, or an incidental cause of death. The second reason is that everybody doesn't seek medical advice at the beginning of pneumonia, and, for that reason, therapy is often delayed too long. The third group are those who have some chronic disease, which is compatible with life over a period of many years, who apparently do not do well when treated for pneumonia. These patients, if they are recognized, and if adjunctive therapies such as oxygen, fluids, transfusions, the use of digitalis in cardiac complications, etc., are promptly and adequately carried out, such measures would reduce the mortality rate of this group to a considerable degree. It is the last group in which the further reduction in mortality is more likely to take place.

Broncho-pneumonia, as you know, is a secondary rather than a primary disease. It is frequently due to the streptococcus, the staphylococcus, the micrococcus catarrhalis, and the streptococcus viridans. It so happens that all these organisms respond well to penicillin. Therefore, when penicillin is given, the scale of dosage and schedule used in lobar pneumonia should be used in cases of broncho-pneumonia.

As for the other types of bacterial pneumonias, such as Friedlander's bacillus, it has been shown that penicillin is of no value. It also has been shown that sulfadiazine and other sulfa preparations are of questionable value. Certainly they are not the ideal remedies, or specific for the management of this disease. Recently much has been written about streptomycin. The recommended dose is one gram in twenty-four hours. It is divided into eight equal parts, or .125 grams per dose, and is given intramuscularly over a period from seven to twenty-one days. There haven't been enough cases reported to say definitely how valuable this drug is. However, present information suggests this is probably the best remedy that we have available.

As for tularemic pneumonia: This disease can occur in any type of tularemia, whether oculoglandular, ulceroglandular, glandular, or typhoid variety. It is the latter type in which the diagnosis is usually overlooked. Therefore, one of the first points in the treatment of this disease is to remember that tularemia can cause lobar pneumonia, and any similar condition that does not respond favorably within forty-eight to seventy-two hours to other methods of treatment, this diagnosis should certainly be considered. It is particularly important to make the correct diagnosis in these cases, because it is this disease in which streptomycin probably has its greatest usefulness. The mortality rate from tularemic pneumonia before this drug was discovered was approximately 85 per cent. Now there have been numbers of cases recorded which would indicate that the mortality rate is much lower. Here, again, the dose is one gram in twenty-four hours, divided into .125 grams every three hours, and in severe cases, probably two grams a day. The treatment should extend over a period of at least seven days, and even fourteen days in the more severe cases.

As for aspiration pneumonia: This is a little bit different disease from any of the rest in that you have a necrotic process in conjunction with the bacterial process. Furthermore, you have a mixed infection and the organisms which are usually found do not respond to any known specific remedy.

Fortunately, preventive measures are fairly successful.

HEALTH PROBLEMS OF NEGROES IN RICHMOND

ZENOBIA G. GILPIN, M.D.,
Richmond, Virginia.

The average Negro in America dies nine or ten years earlier than the average white person. This statement summarizes not only a great body of facts about various problems of the health of Negroes, but also a great body of assumptions and theories pertaining to race and to cultural and economic factors and their relationships to health. In the next few minutes the effort will be made to suggest some major problems related to the health of Negroes and to discuss briefly the theoretical and factual considerations relevant to those problems.

First is the problem of the so-called "Negro diseases." A basic principle of health is that the organisms which cause diseases are not respecters of persons or races, and yet there are some diseases whose incidence among Negroes is higher than among whites. The incidence of tuberculosis is about three times as high among Negroes as among whites. The incidence of syphilis among Negroes may even be as high as ten times that of whites. The biologists contend that where one race is relatively resistant to a particular disease the probability is that the race has had a long history of exposure to the disease and that through natural selection a certain racial immunity to the disease has tended to develop. Only recently (less than 500 years) have Negroes been exposed to syphilis and tuberculosis. On the other hand, Negroes have had a long history of exposure to certain tropical fevers as malaria and yellow fever. The result, according to the theory of natural selection, is that Negroes have developed a strain more resistant to tropical fevers than whites have had opportunity to develop, and, conversely, whites have developed a certain resistance to tuberculosis and syphilis which Negroes have not had time to develop.

The differential incidence of such diseases may be explained, however, without reference to the principle of natural selection. It may be explained in terms of economic and cultural factors. For example, it seems to be significant that the incidence of syphilis among Negroes whose family income is from three to four thousand dollars per year is exactly the same as the incidence among whites with the same income.

Negroes comprise approximately one-third of Richmond's population. However, the absence of racial immunity due to a comparatively brief history of contact with these diseases, coupled with the fact that a high percentage of the Negro populace falls within the low income bracket, makes this problem of far greater magnitude and acuteness than mere statistical comparisons would indicate. Cultural poverty in all its phases exists in greater measure and sharper degree among the under-privileged of all races. Negroes are no exception. The lack of adequate health information from the standpoint of the values of preventive and curative measures is appallingly prevalent among Negroes because of an impoverished socio-economic background. Moreover, the Negro citizen with his low income and substandard living conditions is frequently compelled to remain active longer in his work when sickness does come because of his desperate attempts to make ends meet and to keep soul and body together. Little does he realize that the tendency to delay seeking health services makes his disease a more difficult one to treat than would otherwise be true or that frequently to delay treatment is actually poor economics.

In summary, a high degree of vulnerability, poor economic conditions, and a lack of proper health education at all levels combine as contributing factors to the higher incidence and difference in virulence of some diseases among Negroes.

In an article in last Saturday's *News Leader*, Surgeon-General Parran of the U. S. Public Health Service struck an alarming note in his outlook on the health situation for the nation as a whole. He pointed out that there is little hope for general health improvement because the number of physicians and trained health workers is so small and the increase in numbers is not commensurate with the rising needs. If such is the case for the nation as a whole, how much more intense must be the Richmond Negro's problem? Here we have only 25 Negro physicians serving a Negro population of

*Read before the Monday Club, Richmond, Va., March 31, 1947.

Published upon unanimous request of the Monday Club, composed of case supervisors and executives of health, educational and welfare agencies, in Richmond.

more than 60,000. Although the white population of the city is only two or two and one-half times as large as the Negro population there are fifteen or sixteen times as many white physicians as Negro physicians. A second problem of Negro health, therefore, is that the number of Negro physicians is inadequate. What is the outlook? There is no institution in Virginia where Negro physicians are trained. Our own state institutions which train physicians do not admit Negroes. Negroes are finding it increasingly difficult to complete their medical studies in the medical schools of the North and West. Some, like Harvard, Chicago, and Michigan, limit the number of Negro students; others restrict them to the first two years of medical study—the pre-clinical years; and still others refuse to admit them at all. Illustrating the latter group is Northwestern, notwithstanding the presence of Negro physicians on the staff of the Medical school. The result is that more and more Negroes are being limited to Howard University in Washington, D. C., and Meharry Medical College in Nashville, Tennessee, for their professional training. Although both institutions are well equipped and becoming better all the time, they cannot provide enough physicians to meet the needs of the Negro group in America.

Closely related to the problem of professional training is the problem of post-graduate instruction and opportunities to develop specialties or to improve general practice through continuing study and practice in modern hospitals and clinics. The hospitals of the Medical College of Virginia are teaching hospitals, limiting their practice to their staff members. Although Negroes have distinguished themselves as teachers of medicine and surgery at Harvard, Northwestern, the University, and other places (for knowledge of the healing arts is, like pathogenic organisms, no respecters of persons or races) the Medical College of Virginia has no Negroes on the teaching staff and thus no Negroes practice in the Saint Philip Hospital, a hospital for Negro patients exclusively. Moreover, no Negroes are on the staffs of Piedmont Tuberculosis Sanitarium or the Central State Mental Hospital, both institutions serving Negro patients. Partially as a War Memorial but more especially as an effort to meet a community need, Richmond is about to undertake the erection of a large, modern, general hospital. There are those of us who are anxious lest this new hospital follow the old patterns and somehow fail to provide sorely needed opportunities for the development of the local Negro physician as well as adequate care for the Negro patient.

Not only is the problem of hospitalization important because of the need of physicians for continuing study, but because the hospital needs of Negroes are acute. It is true that recently there have been unoccupied beds for tubercular patients at Pine Camp but a reasonable expectation from the current case finding program is that more active tubercular cases will be found from the mere sampling of a segment of the old Jackson Ward population than Pine Camp can accomodate. This implies a problem separate and distinct in itself—that of a comprehensive case finding program large enough in scope and intense and intelligent enough in its administration to uncover the thousands of cases menacing the health and welfare of us all, but now going unnoticed because of inadequacies of facilities and personnel. Again let me say that statistical comparison alone is not an adequate basis for approaching the solution to a health problem. In attacking any evil or menace, the logical basis, it seems to me, is to concentrate one's forces most intensely where the need is apparently greatest. To some, equal facilities and services for Negroes and whites would be ideal. To me, it appears that equal facilities and services are not enough since proportionately a far greater need exists among the Negro segment of the population.

To return to the problem of hospitalization, the only provision for convalescent rheumatic heart disease children in the city is the provision of five beds at the City Home, not a hospital at all according to modern conceptions. A few years ago there was maintained at the Richmond Community Hospital a unit for such patients accommodating from twelve to fifteen children. This service is no longer offered. What provision is currently being made for these cases (to say nothing of additional ones being uncovered as a result of increasingly improved techniques in diagnosis)? The magazine section of our morning paper carried a two page discussion of such cases on Sunday, March 24, pointing with pride to the fact that Richmond would soon be the center of attraction in the eyes of the medical world because of intense research and care of heart cases.

The problem of the Negro here as in all cases is to be assured inclusion in this program in a measure proportionate not only to population percentages but proportionate also to the degree of incidence and intensity.

Similar to the situation for tuberculosis and rheumatic fever is that for venereal diseases. Without elaborating on the need for a comprehensive case finding program, suffice it to say that the facilities of the Rapid Treatment Center for Venereal Disease would be totally inadequate if such a program were in operation.

The problem of the illegitimate mother is one which is also especially important. More often than not, the illegitimate mother is salvageable. More often than not she is a girl who has made a mistake rather than a prostitute or a person who is definitely antisocial. There is no place in the city, or the state for that matter, where such mothers can go under circumstances designed to restore them to a place of usefulness and good citizenship. All are sent to the City Home or exposed to the cross currents of public hostility by being forced to remain in their own homes.

Disregarding for the moment the gross inadequacy of facilities and services available to Negroes, I am impelled to point out the difficulty Negroes experience in seeking to use those we already have. The clinics of the city and those of the Medical College are splendid when their services can be secured. Negroes, however, and especially those of the professional and semi-professional group are becoming increasingly discouraged and annoyed by the red tape connected with securing these services. Services are not adequate when sick people, regardless of race, are compelled at times to wait hours, sometimes half a day, before being attended. Recently I waited at the Saint Philip Hospital from 8:30 until 11:00 P. M. with a desperately ill child before I could get her admitted for treatment for bronchial pneumonia.

Another problem related to the health of Negroes arises out of the unwillingness of public health authorities to employ Negro physicians as public health workers. Mention has already been made of the absence of Negro physicians at Burkeville and Central State. In addition, no Negro physician is employed by the Richmond Public Schools, by the Richmond Health Department, or by the Virginia State Health Department. The authorities are to be commended for the employment of a qualified Negro physician during recent years who served on the staff at Pine Camp. Whether this one was adequate in number is a matter for conjecture. At any rate, to employ him was a step in the right direction. By this I mean that care should always be taken to employ Negro personnel who are required to meet the same standards as prospective white employees. The practice of employing someone without concern as to his preparation and capabilities for the job to be done is not to be condoned simply because the person happens to be a Negro. It is true in some instances that even the partly trained Negro has the distinct advantage of a higher degree of rapport in approaching his client than the trained white worker because of the mental conflicts and reservation of the client. There can never be a fair test of the value of a Negro worker, however, until one specifically trained and prepared is given the opportunity to render his services. Too often in Richmond's past dealings with such problems a disregard for the qualifications of prospective Negro workers has been demonstrated. Our Department of Public Safety set a good example of careful selection and thorough training of well qualified Negroes when it employed the first four Negro policemen. Standards with reference to high school and college training were set even higher than for whites seeking to join the force. The job they have done in their first year is one of which all Richmond is proud, thanks to their exemplary performance and to an alert and fair-minded local press. Such procedures and principles would apply with equal force to the employment and training of health workers.

One of the wisest Americans of his generation once said that you can't keep a man in a ditch without staying there with him. History has afforded abundant evidence of the general truth of this commonplace parable of Booker-T. Washington. The Poll Tax disfranchises more white people in the South than Negroes. The low wages paid Negroes are an economic burden to the Southern regions. Remembering that this is a discussion of health problems, I hasten to say that it is impossible for the general health of whites to be safeguarded if Negroes have acute health problems. The health of a white home is in jeopardy when the cook or maid comes into close and intimate contact with the mem-

bers of that home during the day time but spends her nights in a home infested with the organisms causing tuberculosis, syphilis, and many other diseases.

No attempt has been made here to deal with the comprehensive and important problem of preventive measures in connection with the health of our citizenry. Only brief mention has been made of the pressing need of wide and modern health education. The important problem of housing and general environment has only been touched. Recreational facilities, being purely commercial, are either totally absent or totally unconcerned with the health of the clientele. Any attempt to cover these in such a brief discussion would be an injustice to the scope and importance of the problems. It is my hope that the discussion has served to give an over-view of the problem as seen through the eyes of one who has had to deal for a while with the prevention, care, and cure of some of the ills of this large segment of Richmond's own people.

201 East Clay Street.

Coronary Artery Disease in Diabetics.

Persons suffering from diabetes are twice as likely to have coronary artery occlusions as are nondiabetic men and eight times as likely as are nondiabetic women, according to an article in the current *Archives of Internal Medicine,* published by the American Medical Association.

The writers are Samuel Stearns, M.D., assistant in medicine at Tufts College Medical School and associate in medicine at Beth Israel Hospital, Boston; Monroe J. Schlesinger, M.D., assistant professor of pathology at Harvard Medical School and pathologist at Beth Israel Hospital, and Abraham Rudy, M.D., late head of the Diabetic Clinic of the Medical Service of the Beth Israel Hospital.

Employing an improved technic in a postmortem study of the hearts of 50 unselected diabetic patients at Beth Israel, the three doctors found some arteriosclerosis in all of them and "functionally significant" coronary artery disease in a larger number than would be expected from previous studies: 37, or 74 per cent. This last figure was in contrast to 37 per cent in 400 consecutive nondiabetic patients of approximately the same average age.

A coronary artery occlusion is said to be present when a clot has formed in a branch of the coronary arteries which supply blood to the heart muscle. With the circulation to this particular area of the heart obstructed by the clot, death of some of the heart's tissue occurs. Such occlusions, either fresh or old, were found in 32 (64 per cent) of the 50 diabetic hearts and as frequently in women as in men; similar occlusions were found in only 23 per cent of the 400 controls occurring in 31 per cent of the nondiabetic men and in but eight per cent of the nondiabetic women.

The severity of the coronary arteriosclerosis was found to be definitely related to the duration but not to the severity of the diabetes.

Schering Initiates Food Relief Drive.

Employees of Schering Corporation of Bloomfield and Union, New Jersey, recently completed a company-wide food relief drive for aid to the stricken people of Europe. The campaign received unanimous support, the employees responding with enthusiasm and generosity in donating over 5,000 cans of assorted meats and evaporated milk. The foodstuffs were transferred to the American Council of Voluntary Relief Agencies for distribution. Schering assumes total cost of shipment abroad.

MYASTHENIA GRAVIS—
Two Case Reports

H. CLARKSON MEREDITH, JR., M.D.,*
Clifton Forge, Virginia.

Although myasthenia gravis is an unusual disease, the diagnosis can often be easily made since the patient with it presents a rather typical picture. Much has been written on the subject, so only a few salient features will be mentioned here.

The underlying disturbance of this disease is not known, but from the successful use of prostigmine by Mary Walker, we have a hint.[12] The physiologic disturbance seems to be located in the myoneural junction. At this point it appears there is a deficiency of acetylcholine production rather than an excess of cholinesterase since all reports of serum cholinesterase in patients with myasthenia gravis have been reported as normal. An explanation of why prostigmine is so dramatic in the treatment of these patients is that it inactivates cholinesterase, causing an increase in the amount of effective acetylcholine at the spinal motor nerve endings.[5] With increased amounts of acetycholine present longer at the myoneural junction a stronger more sustained stimulus can reach the muscle, giving ultimately more activity and strength.

In brief, the outstanding features of myasthenia are the rapid fatigability of the muscles on activity and the quick restitution of function on rest. A general weakness, or more specific symptoms such as ptosis, diplopia, dysarthria, dysphagia are frequently the presenting complaints. Typically, the myasthenia patient is one who, while talking to you, will be seen supporting his jaw movements with his hand. The extreme is the patient lying in bed unable to sit up and having difficulty with respiration because of fatigue of diaphragmatic muscles.

The diagnosis of myasthenia gravis is based on the clinical picture given above plus the therapeutic results of a test dose of prostigmine. Prostigmine methyl sulfate 1.5 mgm. is given hypodermically along with atropine sulfate 0.6 mgm. (1/100 grain) and a dramatic recovery of strength will result within 20 minutes.[5,10] Also, the fluoroscopic findings of a swallow of barium before and after prostigmine will be striking. Before, there will be barium remaining in the pharynx and pyriform sinuses and, afterwards, there will be none. This will serve to differentiate it from bulbar palsy.[10]

The patient with myasthenia gravis can be controlled on prostigmine bromide by mouth in amounts anywhere from 15 mgm. given 2 to 3 times a day to a total of 180 mgm. in divided doses in 24 hours. Usually 15-30 mgm. every 3 to 4 hours is sufficient. Along with this is given atropine sulphate 0.45 mgm. to 0.6 mgm. (1/150 to 1/100 gr.) with each dose to control the muscarine effects of prostigmine. Ephedrine sulfate is sometimes used alone or in conjunction with prostigmine to supplement its effect. It is only 10 per cent as effective as prostigmine.[11] For emergencies, every patient should carry prostigmine methyl sulfate to be given hypodermically by a physician along with a note giving diagnosis and instructions. Another form of therapy that has shown fairly good results in the hands of Blalock[2-3] is the surgical removal of the thymus gland which has been found to be enlarged in many cases. However, this requires special skill, for the operative mortality is high.

CASE REPORTS

The following two cases have been seen recently in this hospital and are typical of myasthenia gravis.

Case 1.—J. S. A., a 44 year old railroad conductor, came in with the chief complaint of weakness of the muscles of his arms, legs, and jaws.

He was in essentially good health until four months before his admission to this hospital when he began to notice that his jaw muscles would become easily tired while chewing. Frequently he would have to stop and give his jaws a rest. Soon after this he became aware of a weakness and easy fatigability of the muscles of his neck, so that after a short time he would have a little difficulty holding up his head. His arms, legs, and back became similarly involved to a greater or lesser degree. His condition gradually progressed to a point where at the time of his admission he would have to use his hand to support the motion of his jaws while talking and he was having difficulty with swallowing.

*Resident, Department of Internal Medicine, Chesapeake and Ohio Hospital, Clifton Forge, Virginia.
Now Assistant Resident in Medicine at the University of Virginia Hospital, Charlottesville.

Previous to his admission he was seen in another hospital† where he was studied and the diagnosis made. There he was given a test dose of prostigmine with dramatic recovery of strength. He was also given curare, which caused collapse, but was immediately reversed with prostigmine. He was finally put on a maintenance dose of prostigmine bromide by mouth of 37½ mgm. every three hours and sent here for further observation.

He was taken off prostigmine before he was examined. In general, all his musculature became rapidly exhausted with activity and recovered to its original state if given an adequate rest period. This was particularly so of his mandibular muscles. In answering questions he was observed to be supporting his jaw with his hand. If this was not done, in a short time his mouth would remain open. Other than an internal strabismus without diplopia, which had been present since childhood, the rest of his physical examination was negative.

Laboratory studies were all within normal limits. The hemoglobin was 88 per cent (13.0 grams), red blood count 4,350,000, white count 8,500 with a normal differential, and blood serology negative. An x-ray of his chest showed no enlarged thymus or other abnormalities.

While in the hospital he was put to several tests before and after prostigmine. Only two will be mentioned as all of them showed essentially the same results. For one, he was assisted up a flight of stairs until he collapsed. He was then immediately given 1.5 mgm. of prostigmine hypodermically and in 5 to 10 minutes he recovered dramatically to get up and walk back down the stairs to his room without assistance. In another, he was tried to see how many times he could close his mandible against a constant amount of light resistance. He was able to do this four times well and four times weakly before prostigmine, but almost indefinitely afterwards. In all studies the restoration of his strength was dramatic. The diagnosis of myasthenia gravis was confirmed and he was discharged well controlled on prostigmine bromide 37½ mgm. and atropine sulfate 0.45 mgm. (1/150 gr.) every 3½ hours while awake.

Case 2.—S. C., a 42 year old negro laborer, came in with the complaints of diplopia and muscular weakness.

†Medical Service, Dr. Joseph B. Webb, Chesapeake and Ohio Hospital, Huntington, W. Va.

About three months before admission the patient first noticed a progressively increasing diplopia. Along with this he began to have drooping of his upper lids and in order to see well he would have to hold his head back. One month after he became aware of his visual difficulties he began to have easy fatigue of the muscles of his jaw and face while talking and chewing. Soon he found himself supporting and assisting his mouth actions with one of his hands. About this time he began to have difficulties with swallowing and in a short time he noticed that after a few bites he would be unable to swallow and food would go up his nose. About one month before admission he became aware of all his muscles becoming weak so that he was scarcely able to do anything after a little activity. Some groups of muscles were more severely affected than others. However, with an adequate rest period he would regain some of his strength. Previous to his admission a lumbar puncture was done at another hospital and spinal fluid was found to be normal. While there all of his teeth were extracted in an effort to help him.

On examination, a middle aged negro male was found lying in bed unable to lift his head off the pillow or to sit up directly. By turning on his side, getting his foot fixed under the edge of the bed, and using his arms he could manage to get himself up. All the musculature of his body would become rapidly weakened to a greater or lesser degree when subjected to activity. An external strabismus, ptosis, and diplopia were present. While talking his mouth would drop open and he would have to use his hand to close it. He was unable to close his mouth against a very weak pressure on his mandible. The deep reflexes were active but weak. The blood pressure was 138/90 and examination of the heart, chest, and abdomen was normal.

Laboratory studies were all normal: hemoglobin 88 per cent (13.0 grams), white blood count 9,050, Kahn negative, and urine normal. An x-ray of his chest did not show any evidence of thymic enlargement. X-rays of his gums and jaws showed several abscessed root fragments.

He was given a test dose of prostigmine while still in bed and in 10 minutes the improvement was dramatic. He was able to sit up, talk well, and walk without assistance. After the effects of the test dose had worn off, he was tried in other activities

before and after prostigmine. He was found to be unable to step up on a chair even with assistance one time before, but after an injection of the drug he was able to do this several times. In other performances the results were observed to be essentially the same and the improvement was always dramatic. A diagnosis of myasthenia gravis was made and the patient has been well controlled on 30 mgm. of prostigmine bromide and 0.45 mgm. (1/150 gr.) of atropine sulfate orally every two hours during the day and one dose at midnight. In addition to this he was given 45 mgm. (¾ gr.) of ephedrine sulfate four times a day to supplement the effect of prostigmine. When he was last seen he could eat and talk without difficulty and walk fairly well.

SUMMARY

A very brief discussion of myasthenia gravis and its treatment has been presented along with two case reports showing the ease with which the diagnosis may be made by keeping a high index of suspicion and giving a therapeutic trial with prostigmine. Controlling a case of myasthenia gravis can be very gratifying, for the patient may be given many months or years of usefulness when he would otherwise be completely incapacitated and meet with an early end.

BIBLIOGRAPHY

1. Adams, Mildred, and Power, M. H.: Chemical Studies of Patients with Myasthenia Gravis and Progressive Muscular Dystrophy, Proc. Staff Meetings of Mayo Clinic, **9**:598, October 3, 1934.
2. Blalock, Alfred; Harvey A. McGehee; Ford, Frank R.; and Lilienthal, Joseph L., Jr.: Treatment of Myasthenia Gravis by Removal of the Thymus Gland, *J.A.M.A.* **117**:1529, November 1, 1941.
3. Blalock, Alfred: Thymectomy in the Treatment of Myasthenia Gravis—Report of Twenty Cases, *Jour. Thoracic Surgery* **13**:316, August, 1944.
4. Eaton, L. M.: Myasthenia Gravis, Proc. Staff Meetings of Mayo Clinic, **17**:81, February 11, 1942.
5. Goodman, Louis, and Gilman, Alfred: The Pharmacological Basis of Therapeutics, 1941.
6. Nellen, Maurice: Thymectomy for Myasthenia Gravis, *British Medical Journal* **2**:778, December 18, 1943.
7. Remen, L.: On the Pathogenesis and Therapy of Myasthenia Gravis Pseudoparalytica, *Deutsche Ztschr. f. Nervenh.*, **128**:66, 1932.
8. Schlezinger, Nathan S.: Evaluation of the Therapy of Myasthenia Gravis, *Arch. Int. Med.* **65**:60, January, 1940.
9. Turnbull, Frank: Removal of the Malignant Thymus in a Case of Myasthenia Gravis, *Arch. Neurol. & Psych.* **48**:938, December, 1942.
10. Viets, Henry R.: Myasthenia Gravis, *J.A.M.A.* **127**: 1089, April 28, 1945.
11. Viets, Henry R.: The Emergency Treatment of Myasthenia Gravis, *Med. Clin. N. A.* **30**:1035, September, 1946.
12. Waggener, Raymond W.: The Cyclopedia of Medicine, **10**, p. 300, 1946.
13. Wilson, Andrew, and Stoner, H. Berrington: Prostigmine and Ephedrine in Myasthenia Gravis, *Lancet* **246**:429, April, 1944.

Marriage and Divorce Statistics.

Six times as many marriages took place in the United States in 1946 as in 1867, and 60 times as many divorces occurred in 1946 as in 1867, according to figures covering the 80-year period contained in a report released today by the National Office of Vital Statistics, Public Health Service, Federal Security Agency.

According to provisional figures in the report, both marriages and divorces reached record highs in 1946. There were 2,285,539 marriages and 613,000 divorces in the year just passed, compared with an estimated 357,000 marriages and 9,937 divorces in 1867, and 709,000 marriages and 55,751 divorces in 1900. The revised figures for 1945 are 1,603,139 marriages and 494,000 divorces.

Marriages increased almost twice as rapidly as did divorces in 1946 over 1945. There were 682,400 more marriages in 1946 than in 1945, an increase of 42.6 per cent; while divorces granted rose 119,000, or 24.1 per cent, in the same period.

MANAGEMENT OF THYROTOXICOSIS*

ELAM C. TOONE, M. D.,
Richmond, Virginia.

In discussing the treatment of thyrotoxicosis, it is unwise to limit the discussion to any single technique because so many new drugs have entered the field of therapy.

The first drug utilized that had any real value in the treatment of thyrotoxicosis was iodine. In 1896, Baumann first found iodine in thyroid tissue; later this finding was confirmed by Kendall who found iodine in thyroxine, which he isolated from the gland. In 1921, Plummer advocated the use of iodine in the treatment of thyrotoxicosis as a preoperative measure. This was a very distinct contribution to the therapy of thyrotoxicosis and had the advantages of producing a temporary control of the thyrotoxic state and of permitting operative procedures under less difficult circumstances. It further had the advantage of being simple, quick and relatively inexpensive. It shortly became apparent, however, that not all patients responded properly to iodine therapy and that the control of the thyrotoxic state was a temporary one at the best. This latter condition is due to the fact that the administration of iodine causes the blood iodine level to increase, and with this increase in the blood level more thyroid hormone is formed which is then stored within the gland. After a period, however, this storage of the thyroid hormone reaches such a level that it "breaks over" into the blood stream and the thyrotoxic state returns. Even with these limitations, iodine was a valuable agent in the treatment of thyrotoxicosis, but it still left a great deal to be wanted as a completely satisfactory therapeutic agent.

The next stage was the development of certain goitrogenic drugs. It had been found over a number of years that many preparations had the ability to influence thyroid metabolism and among these were such drugs as the cyanates, the cyanides, the various sulpha preparations and thiourea. These as a general rule had the property of slowing down the activity of the thyroid gland and producing a tendency toward hypothyroidism or myxedema. For various reasons these drugs proved unsatisfactory in a long term usage, due in some instances to their toxic effect and in some instances to their failure to control adequately the activity of the thyroid gland. It was during the study of these drugs that thiouracil was found.

Thiouracil is a preparation consisting of a thiourea base to which is combined an aniline compound. This drug has been found to be very effective in controlling thyrotoxicosis by the prevention of the formation of the thyroid hormone, and in combination with iodine, it has been found to be an excellent drug in the pre-operative preparation of thyrotoxic patients. Its great disadvantage, however, is that it has a number of very serious toxic effects, and, roughly 14 per cent of the patients under treatment with thiouracil react in one toxic form or another. The most serious toxic reaction is the development of agranulocytosis, which occurs in 1.8 per cent of the patients and there is a general mortality rate of .5 per cent. This is in keeping with the general mortality rate of the operative treatment of thyrotoxicosis.

When used in the preoperative preparation, the drug is given in the dosage of 2 gm. three times a day until the metabolic rate is normal or approaching normal and then the patient is given an iodine preparation such as Lugol's solution in doses of 5 to 10 drops three times a day for 10 days prior to operation. When used in the continuous medical management of thyrotoxicosis, the patient is placed on thiouracil in amounts of .2 gm. three times a day and this dose is continued until the basal metabolic rate approximates normal and the general features of the thyrotoxicosis are under control. The dose is then reduced to what may be found a satisfactory maintenance level, .1 to .2 gm. two or three times a day. In both instances the drug has proven to be very satisfactory. One other point which should be mentioned is that at first when thiouracil was used alone in the preoperative preparation of thyrotoxic patients, it was found that the gland became so enlarged and vascular that the operative technique was difficult. The use of iodine immediately before surgery produced satisfactory results in reducing the size and vascularity of the gland and consequently re-

*Read at the Symposium on Therapy, February 18-19, 1947, Medical College of Virginia, Richmond, Virginia.

duced the technical difficulties previously encountered.

Propylthiouracil as far as its effect on the thyrotoxic case shows the same general effect as thiouracil. Probably it acts less rapidly, but nevertheless in the same way and as effectively. The main difference is that this drug has been found to be relatively non-toxic and as yet there have been no outstanding features of intoxication as a complication of its use. In the original evaluation of this drug one of the factors that may have influenced the feeling that it is not so effective as thiouracil was that the initial amounts used were quite small, beginning at 75 to 100 mgm. a day. This dosage has gradually been increased, and, at the present time, the recommended amount is 300 mgm. or .3 gm. a day, given in equally divided doses. By increasing the dose of propylthiouracil, the effectiveness has been increased with a more satisfactory control of the thyrotoxicosis. Furthermore, the increase in size of the doses has not shown any tendency toward the development of any toxic reaction.

Another drug used in the treatment of thyrotoxicosis is radioactive iodine. This drug has not yet received extensive trial and its therapeutic advantages are still being evaluated to a large extent. The use of radioactive iodine has resulted as a side issue from much of the work that has recently been done in radioactive substances generally, and it was first advocated and tried in 1938 by Hertz, Roberts and Evans. At the present time these workers are recommending the use of 5 to 25 millicuries of the drug as a single dose, and this is given only to patients who have received no iodine therapy for at least a month and those who can be watched closely for a period of from 6 to 8 months. They feel that with the proper use of this drug satisfactory responses in fully 80 per cent of the patients with thyrotoxicosis can be obtained.

Of the complications that arise in the thyrotoxic state, one of the most difficult and trying is that of exophthalmos. Malignant exophthalmos is thought to be the result of the activity of thyroid stimulating hormone upon the eye, and as such offers a number of different and difficult problems in its control. The nature of the condition is not completely understood, but there is one warning that should be stressed. That is, a patient with progressive exophthalmos or malignant exophthalmos should not be subjected to a subtotal thyroidectomy too hurriedly because the removal of the thyroid tissue seems to stimulate the pituitary gland to the formation of the thyroid stimulating hormone and will tend to increase the exophthalmos rather than decrease it. Continued use of thiouracil and other goitrogenic drugs will, in similar manner, stimulate the pituitary to the elaboration of the thyroid stimulating hormone and will increase the exophthalmos rather than decrease it. Although various therapeutic measures have been tried, none have proven to be completely satisfactory. One therapeutic approach is the use of small doses of thyroid extract in combination with small amounts of iodine; the thyroid extract is advocated to keep down the elaboration of the thyroid stimulating hormone in the pituitary gland and the iodine to control the thyrotoxic state. Other measures are the x-ray treatment of the pituitary gland and decompression of the orbit.

Another complication of the thyroid state which occurs in thyrotoxicosis is that of the thyroid crisis. This still is managed more by the use of large doses of iodine, sometimes given intravenously, oxygen, intravenous glucose, and sedation of the patient.

Complications of toxic adenoma of the thyroid are principally those of a cardiac nature. Disturbances of rhythm, the most important of which is aricular fibrillation, is usually controlled by the measures which control the thyrotoxic state. When congestive heart failure is present the treatment is that of the congestive failure along with the control of the thyrotoxicosis.

Treatment of malignant diseases of the thyroid gland for the large part is surgical in conjunction with x-ray therapy but a great deal of hope is arising now from the use of the radioactive preparations.

At the present time the general therapeutic approach toward the management of thyrotoxicosis is along two lines. One is the preparation of the patient for sub-total thyroidectomy by the use of thiouracil or propylthiouracil combined with iodine, and the other is designed toward the complete medical management of the patient by the continued use of thiouracil and propylthiouracil. In following this latter course, the disadvantages of thiouracil are quite apparent but it may be that propylthiouracil will control the condition satisfactorily and in the future continue to show no evidence of toxic features.

TWO INTERESTING EAR CASES

ALBERT G. SCHNURMAN, M.D.,
Roanoke, Virginia.

CASE I.— S. J., male, age 35, who had had scarlet fever 25 years ago complicated by left otitis media and spontaneous rupture of the drum followed by purulent drainage for about a year. This drainage cleared up spontaneously and the patient was left with a perforation of the drum in the posterior inferior quadrant approximately 3 mm. in diameter. Hearing was normal in both ears. I first saw the defect in the drum on October 16, 1942, and at least six other physicians had also seen the perforation during the course of numerous examinations for the Army and Navy. And because of the defect the patient had been disqualified for military service. On October 5, 1945, because of earache due to myringitis of the left drum, I prescribed penicillin ear drops—200,000 units in an ounce of isotonic saline. The patient was advised to use 4 drops in the ear three times a day. The symptoms were entirely relieved in 48 hours and the drum returned to normal within 72 hours. The patient and I agreed to try the drops for an indefinite period in the hope that the penicillin might have some favorable effect on healing of the perforation. On February 4, 1947, examination revealed the drum to be perfectly normal. There was no evidence of the perforation. In order to check my own observation, I had the patient examined by an ear specialist who felt that the drum had healed over and the perforation was no where to be seen. Since chronic perforation is rarely if ever know to heal, I cite this case as a matter of interest. I feel that there must have been a long-standing infection at the margin of the perforation, and that, after the long-continued use of penicillin, the infection was checked, allowing new cells to bridge over the gap in the drum.

CASE II.—V. R. male, age 35, came in with complaint of a super-sensitive ear. He claimed he could hear voices at great distances when others could not. He could hear crickets at 100 yards with his left ear. He could get the pitch of a musical note while singing without the aid of a piano or violin string. Lately, however, it seemed that this hypersensitive ear was making him nervous. In short, he was hearing too much. Examination of the right drum was normal. Examination of the left drum, however, revealed a fine, taut, thread of drum membrane drawn out very finely and attached to the drum superiorly and inferiorly by bands of fine threads. The main thread stood out about 1 mm. from the surface of the drum. The following sketches will illustrate the anatomical relationships.

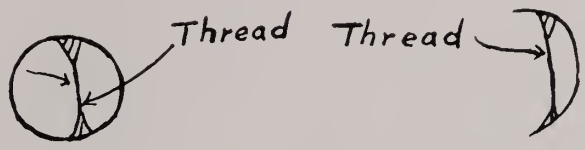


Fig. 1. Front view of drum. Fig. 2. Side view of drum.

It is felt that this band of tissue acted as an aerial or antenna and was set into vibration, by higher frequency sound waves than the regular drum. These waves were in turn transmitted to the main drum and the patient was truly hearing too much. He was advised to think the matter over and either use his anatomical defect as an asset in the field of music or in the physics of sound, or to go to an ear specialist and have the band clipped at both ends and removed. As yet, I have heard no more from the patient in this respect.

SUMMARY

Two interesting rare conditions of the ear drum are presented:

1. A case of healing of a chronic perforation.
2. A case of "supersensitive ear" due to anomaly of the drum.

501 Shenandoah Life Bldg.

COORDINATION OF URBAN AND RURAL PUBLIC HEALTH*

C. HOWE ELLER, M.D., DR. P. H.,
Director, Richmond City Health Department,
Richmond, Virginia.

The desirability of close coordination of urban and rural public health activities would seem to be axiomatic. But, even if we didn't already know it, the very fact that it is necessary to speak on the subject indicates that it is usually imperfect and often non-existent.

I will no more than mention many of the reasons in favor of coodination between cities and the surrounding country, because all of you are familiar with them. Boundaries are often artificial, especially when metropolitan areas extend beyond them; particularly with modern transportation, some communicable diseases may spread as easily from community to community as from neighbor to neighbor; many of the city's public health problems come from without—such as contaminated water, milk, shellfish. Contrarily, a town may provide the surrounding area with problems from its sewage disposal, garbage and pollution of streams.

All of these things make it plain that, while city and rural health problems may be different in some ways, they cannot be separated and, therefore, should be approached together; that each area is dependent on the other if a good job is to be done. Furthermore, policies and procedures should be similar. Nothing is more irritating to a physician than to have to deal with one policy in a town or city and an entirely different one a few blocks away in the county. Nothing is more confusing to the layman—nor more likely to make him think that the health department doesn't know its business—than finding that in Centralia the health department advises combinded diphtheria and pertussis inoculation, but not before nine months of age, whereas the surrounding county gives only the former and insists on it by six months.

The particular point I would like to make is that the reasons for coordination are increasing, not only because of the way people live—we now not only live in the suburbs and work in the city, but we live in the city and work in an industrial plant five or ten miles distant— but mainly because of the way public health is developing. The scope of public health is extending rapidly, and there can be no doubt that there will be more and larger programs, the basis of which will consist mainly in providing various aspects of medical care. The beginnings of such specific control programs, such as cancer, rheumatic fever, heart disease and geriatrics, are already with us, and the broader provision of medical care is surely not far away. These types of programs inevitably mean specialized diagnostic facilities, specialized treatment facilities, and, of course, hospitalization. Everything, then, must center around hospitals—the large medical center, a few well located general hospitals, a larger number of scattered smaller hospitals, and many health centers. All of these will be located in cities and towns of varying size, with the exception of some of the health centers. The rural areas must feed to them, and the hospitals and centers should be well integrated. It becomes essential, therefore, that planned coordination must exist between rural areas and cities, and between cities themselves, regardless of size, if the Public Health program of the future is to work at all smoothly.

The success of such an integrated program will depend, in part, on overcoming certain handicaps which have existed in the past, such as:

1. Jealousy, which often exists between contiguous counties and cities.

2. County fear of dominance by a large city.

3. Semi-independence of the cities on the one hand and consideration as step-children by the State on the other.

4. Feeling of self-sufficiency, particularly on the part of cities, and therefore unwillingness to either receive help or to aid other areas. In these days no communities are completely self-sufficient.

5. Subsidy policies of the Federal Government and States. Their purpose, that of helping poorer areas, has been good, but more definite progress can be made in the future by alloting a larger proportion to city development.

6. Political interference with Public Health—

*Read at the Virginia Conference of State Health Workers, May 28, 1947.

frequently more difficult to avoid in cities, but it can be avoided by a strong health department, particularly with State support, since the people and the best politicians don't really want political Public Health.

Having shown the need for coordination— with which I am sure few will quarrel, and having touched on some of the difficulties, obviously the next and most important question is, what specifically can be done to achieve it?

There are three possible approaches that may be used:

1. Voluntary cooperation
2. Planned coordination, and
3. Official consolidation.

VOLUNTARY COOPERATION

This is the weakest approach and least likely to produce the desired results because, first of all, it pre-supposes willingness on the part of all concerned to cooperate—city health departments, county health officers, State Health Department officials. Lack of willingness on the part of one spoils it for everyone else. Furthermore, granted that everyone is anxious to cooperate, it would be terrifically complicated and time consuming, because it is not just a matter of cities getting together with adjoining counties; it involves, to some degree, cooperation with a great many counties as well as with each other, and with the State Health Department.

Nevertheless it is a method that should be tried *until a more specific and definite plan can be* developed, and to this end some or all of the following would be helpful:

1. Regular periodic conferences between Health Officers of cities and adjoining counties, or between those of adjoining counties.

2. Joint planning through some other agency. As an example, the Richmond Area Community Council brings together the Henrico ond Chesterfield County Health Officers with the City Health Officer. Although this has not been too fruitful as to definite results as yet, it does remain as one method of contact.

3. Mutual exchange of new or changed policies between contiguous health units.

4. Through the State Health Department: By having field personnel visit cities as well as counties, there would be provided an opportunity for an interchange of ideas beneficial to the programs of not only the city but the State agency. Standing invitations, if necessary, should be issued by cities to State Health Department personnel. I have already made such an invitation verbally and informally and would like to repeat it here. We shall be delighted to have State Health Department personnel visit us regularly or at any time they so desire.

5. The creation of an active State Public Health Association where all public health people and agencies can get together to discuss their problems and initiate joint planning.

PLANNED COORDINATION

By this I mean bringing all cities into the statewide public health program. The development of such a plan would require a positive approach on the part of the State Health Department. This would involve:

First—that cities be willing to give up a certain amount of their autonomy, and

Secondly—that the State Health Department bring the cities into its planning council in order that their views might be expressed and included in the over-all program. Also, as a part of this, it would be very helpful if there could be set up a reasonable but definite formula for Federal and State aid to cities as well as to rural areas.

In my opinion such "planned coordination" should be carred out, and I feel that most so-called "independent" cities would be willing to participate if it is to be truly a joint program.

OFFICIAL CONSOLIDATION

This third method is the ideal and would insure coordination with at least the immediately surrounding counties. It would provide joint city-county departments.

This, of course, has already been done with a number of smaller and some fair-sized cities—for example, the Joint Health Department of Charlottesville and Albemarle County. It should certainly be the objective for all towns and cities not large enough to support a well-manned, full-time department of their own. Ordinarily this would be the case up to a population of around 50,000.

Even when larger cities are involved this has been done in many parts of the country, as demonstrated by Louisville and Jefferson County in Kentucky, and Birmingham and Jefferson County in Alabama.

While there is perhaps not the same urgency as for smaller cities, it is nevertheless logical, and

should help provide more complete services for the surrounding county. In addition, it would aid in spreading the services of the currently none-too-plentiful supply of trained and experienced health officers.

In conclusion—

How far we can go along some or all of the lines suggested depends on all of us, for we are all concerned to a greater or lesser degree. It we can accept the need for closer coordination of urban and rural public health, then we can begin right now to work towards it. I can think of no better time and place than at a meeting such as this for making a start at least on periodic conferences between City and Rural Health Officers, and reactivation of the Virginia Public Health Association.

Bibliotheca Obstetrica

PAULUS AEGINETA (625-690): Libri septem. In principio singulorum librorum omnia indicantur, quae in eo continentur libro. . . . Basilae, Andreas Cratander, 1538. 311 p. 30 cm. (M.L.)

——:Medicinae totius enchiridion, septem libris. . . . Basileae, Joan. Oporinus, 1551. 767 p. 16½ cm. (ML.)

——:The seven books of Paulus Aegineta. Translated from the Greek with a commentary embracing a complete view of the knowledge possessed by the Greeks, Romans, and Arabians on all subjects connected with medicine and surgery by Francis Adams. London: Printed for the Sydenham Society 1844. 3 v. 23 cm. (RC60.P18 A)

"The commentary gives a fuller account of Greek and Roman medicine (to some extent of Arabian also) than is elsewhere assessible in English, or perhaps in any modern language." Paul of Agina was the last of the Greek masters in medicine. He admits that he introduced nothing new or original, but his compilation is important in the history of medicine. He omitted from the obstetrician's practice podalic version that Soranus used so successfully on the living child some 500 years previously. On the other hand he described the "Walcher" position for difficult labor. His description of difficult labor is a classic. He says "difficult labour arises either from the woman who bears the child, or from the child itself, or from the secundines, or from some external circumstances. From the woman in labour, either because she is gross and fat, or because her womb is small, or because she has no pains, or is affected with fear, or because the uterus or some other part is imflamed or otherwise diseased, or because, from some natural weakness, she is unable to expel the foetus, or because labour is premature." Today we know very little more about the greatest single cause of prolonged and difficult labor, i.e. the behavior of the uterus.

PUBLIC HEALTH

L. J. ROPER, M.D.
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for December 1947 as compared with the same month in 1946, and for the period of January through December 1947 compared with the same period in 1946, is as follows:

	Dec. 1947	Dec. 1946	Jan.-Dec. 1947	Jan.-Dec. 1946
Typhoid and Paratyphoid	4	7	160	123
Diarrhea and Dysentery	112	151	4,920	2,711
Measles	339	228	8,000	13,443
Scarlet Fever	132	193	1,316	2,721
Diphtheria	47	50	274	548
Poliomyelitis	1	11	173	143
Meningitis	6	12	102	206
Undulant fever	2	10	75	70
Rocky Mountain Spotted Fever	0	0	67	93
Tularemia	10	20	60	77

MODIFICATIONS OF RULES AND REGULATIONS IN CONTAGIOUS DISEASES

On December 10, 1947, the State Board of Health adopted the revised recommendations of the American Public Health Association as the official rules, regulations and directions for the control of communicable diseases in Virginia. Similar action has been previously taken by ten states, by Alaska and, in part, by other areas. The new regulations became effective as of January 1, 1948, and information and detail concerning the various changes will be directed to all reporting physicians in the State.

As previously indicated, revision is subsequent to recommendations of the American Public Health Association which have been approved by the United States Public Health Service, the United States Navy and other official agencies. They are based upon authoritative appraisal of existing epidemiological information and methods of control for each communicable disease. Every five years a subcommittee on communicable disease control of the American Public Health Association's Committee on Research and Standards meets and is responsible for such revision and addition as appears necessary. The major change recommended in the 1945 meeting was the abolishment of quarantine in meningococcic meningitis, poliomyelitis and scarlet fever. For some years it has been recognized in these diseases that quarantine has been relatively ineffective for the following reasons:

1. Wide experience has clearly demonstrated the relative ineffectiveness of quarantine in these and other diseases.
2. Normally the low secondary attack rates fail to justify the time and effort expended by public health personnel in the administration of quarantine.
3. Serious economic losses to wage earners and to school children occur through unnecessary quarantine measures.
4. Existing regulations frequently fail to provide control for carriers and missed or undiagnosable cases.
5. Major advances in prevention and therapy have been made through the use of sulfonal drugs and antibiotics, which has resulted in decreased secondary attack rates and infectivity periods.
6. Former rules and regulations failed to differentiate between the contagious case, so controlled that little or no menace existed, and the one in which inadequate facilities for isolation were offered or practised.

It is understood that isolation of at least fourteen days is still required in meningitis, poliomyelitis and scarlet fever, and that the technique of isolation be satisfactory to the health officer and the attending physician. The health officer retains the power of quarantine in any contagious disease where potential menace to the public health exists. Contacts are permitted to continue with normal activities as long as they show no sign of contagion. Quarantine may still be required in those areas throughout Virginia where existing or new rules and regulations are adopted and enforced.

FORUM

Coroners of the Commonwealth and Physicians Designated to Perform Postmortem Examinations.

Dr. Herbert S. Breyfogle, Chief Medical Examiner for Virginia, announces the following as the corrected list of coroners of Virginia and those designated to perform postmortem examinations in connection with the new Coroner law:

COUNTY AND NAME AND ADDRESS OF CORONER

ACCOMACK
Dr. J. L. DeCormis, Accomack
Dr. R. J. White, Keller

ALBEMARLE
Dr. E. D. Davis, Crozet
Dr. Percy Harris, Scottsville

ALLEGHANY
Dr. L. A. Houff, Clifton Forge
Dr. Michael I. Hanna, Covington

AMELIA
Dr. J. T. O'Neal, Amelia

AMHERST
Dr. S. R. Arnold, Amherst
Dr. Lyddane Miller, Amherst

APPOMATTOX
Dr. C. G. O'Brien, Appomattox

ARLINGTON
Dr. W. C. Welburn, Arlington

AUGUSTA
Dr. Francis P. Floyd, Waynesboro

BATH
Dr. I. T. Hornbarger, Hot Springs

BEDFORD
Dr. E. L. Johnson, Bedford
Dr. W. V. Rucker, Bedford

BLAND
Dr. George B. Kegley, Bland

BOTETOURT
Dr. W. N. Breckinridge, Fincastle

BRUNSWICK
Dr. T. H. Anderson, Lawrenceville
Dr. F. N. Mallory, Lawrenceville

BUCHANAN
*Dr. C. F. Johnson, Jr., Grundy

BUCKINGHAM
Dr. Garland Dyches, Dillwyn
Dr. W. A. Pennington, Buckingham

CAMPBELL
Dr. R. H. Cross, Concord Depot
Dr. J. P. Kent, Altavista
Dr. W. O. Tune, Brookneal

*Resigned January 1, 1948.

CAROLINE
Dr. J. G. Broaddus, Bowling Green

CARROLL
Dr. J. G. Cox, Hillsville
Dr. W. A. Porter, Hillsville

CHARLES CITY
Dr. J. R. Parker, Providence Forge

CHARLOTTE
Dr. H. C. Chalmers, Brookneal
Dr. Thomas Watkins, Drakes Branch

CHESTERFIELD
Dr. W. H. Copley, South Richmond
Dr. P. L. Hill, Colonial Hts. (Petersburg)
Dr. J. F. Parkinson, Chester
Dr. Wm. F. Grigg, Jr., Medical College, Richmond

CLARKE
Dr. Frank Tappan, Berryville

CRAIG
Dr. W. F. Mitchell, New Castle

CULPEPER
Dr. J. L. Stringfellow, Culpeper

CUMBERLAND
Dr. E. B. Nuckols, Cumberland
Dr. N. P. Snead, Cartersville

DICKENSON
Dr. R. L. Phipps, Clintwood
Dr. T. C. Sutherland, Haysi

DINWIDDIE
Dr. W. J. Mayes, Church Road

ELIZABETH CITY
Dr. P. J. Parker, Hampton

ESSEX
Dr. J. W. Chinn, Tappahannock
Dr. J. M. Gouldin, Tappahannock

FAIRFAX
Dr. Nelson Podolnick, East Falls Church

FAUQUIER
Dr. G. H. Davis, Warrenton

FLOYD
Dr. F. C. Bedsaul, Floyd

FLUVANNA
Dr. A. C. Whitley, Palmyra
Dr. J. H. Yeatman, Fork Union

FRANKLIN
Dr. E. C. Jamison, Rocky Mount
Dr. F. B. Wolfe, Rocky Mount

FREDERICK
Dr. John R. Troxell, Winchester

GILES
Dr. S. A. Tuck, Pembroke
Dr. M. C. Newton, Narrows

GLOUCESTER
Dr. J. W. Smith, Hayes Store
Dr. H. A. Tabb, Gloucester

GOOCHLAND
Dr. W. S. Lloyd, Goochland

GRAYSON
Dr. J. C. Moxley, Independence

GREENE
Dr. M. D. Foster, Stanardsville

GREENSVILLE
Dr. M. G. Baynard, Emporia
Dr. G. M. Naff, Emporia

HALIFAX
Dr. C. B. White, Halifax
Dr. N. H. Wooding, Halifax

HANOVER
Dr. A. B. Gravatt, Ellerson
Dr. A. E. Murray, Beaverdam
Dr. Judson Vaughan, Ashland

HENRICO
Dr. J. C. LeFon, N. Richmond

HENRY
Dr. L. A. Faudree, Bassett
Dr. D. H. Mason, Ridgeway

HIGHLAND
Dr. C. B. Fox, Monterey
Dr. B. T. Swecker, Blue Grass

ISLE OF WIGHT
Dr. Rea Parker, Smithfield

JAMES CITY
Dr. A. M. Sneed, Toano

KING GEORGE
Dr. R. N. Harris, Port Royal

KING & QUEEN
Dr. R. D. Bates, Newtown

KING WILLIAM
Dr. W. H. Hosfield, West Point
Dr. A. W. Lewis, Aylett

LANCASTER
Dr. A. B. Gravatt, Jr., Kilmarnock
Dr. M. E. Norris, Kilmarnock

LEE
Dr. T. S. Ely, Jonesville
Dr. G. C. Sumpter, Rose Hill

LOUDOUN
Dr. W. P. Frazer, Hamilton

LOUISA
Dr. H. W. Judd, Mineral

LUNENBURG
Dr. H. B. Showalter, Kenbridge

MADISON
Dr. A. E. Powell, Madison

MATHEWS
Dr. R. B. Bowles, Mathews
Dr. J. R. Gill, Mathews

MECKLENBURG
Dr. H. H. Braxton, Chase City
Dr. W. J. Ozlin, South Hill

MIDDLESEX
Dr. H. F. Hoskins, Saluda

MONTGOMERY
Dr. C. F. Manges, Blacksburg
Dr. A. M. Showalter, Christiansburg

NANSEMOND
Dr. G. R. Joyner, Suffolk

NELSON
Dr. Estes Kidd, Lovingston

NEW KENT
Dr. J. R. Parker, Providence Forge

NORFOLK
Dr. L. C. Ferebee, S. Norfolk

NORTHAMPTON
Dr. J. E. Gladstone, Exmore
Dr. J. G. Goode, Cape Charles

NORTHUMBERLAND
Dr. M. M. Neale, Heathsville

NOTTOWAY
Dr. J. M. Hurt, Blackstone

ORANGE
Dr. J. N. Clore, Orange
Dr. H. C. McCoy, Gordonsville

PAGE
Dr. G. H. Long, Luray

PATRICK
Dr. A. M. Gates, Ararat
Dr. B. A. Hopkins, Stuart

PITTSYLVANIA
Dr. H. H. Hammer, Chatham

POWHATAN
Dr. W. S. Lloyd, Goochland

PRINCE EDWARD
Dr. W. E. Smith, Farmville

PRINCE GEORGE
Dr. W. C. Webb, Disputanta

PRINCESS ANNE
Dr. H. F. Dormire, Virginia Beach

PRINCE WILLIAM
Dr. E. H. Marsteller, Manassas

PULASKI
Dr. R. F. Thornhill, Pulaski

RAPPAHANNOCK
Dr. J. P. Snead, Sperryville

RICHMOND
Dr. J. H. Hare, Warsaw
Dr. Paul C. Pearson, Warsaw

ROANOKE
Dr. John Hurt, Vinton
Dr. A. J. Russo, Salem
Dr. Russell Smiley, Salem

ROCKBRIDGE
Dr. E. V. Brush, Lexington
Dr. E. P. Tompkins, Lexington

ROCKINGHAM
Dr. F. L. Byers, Harrisonburg

RUSSELL
Dr. W. C. Elliott, Lebanon
Dr. James Elliott, Lebanon
Dr. G. H. Wolfe, Abingdon

SCOTT
Dr. W. L. Griggs, Jr., Gate City
Dr. Fred McConnell, Gate City
Dr. G. C. Honeycutt, Gate City

SHENANDOAH
Dr. H. W. Miller, Woodstock

SMYTH
Dr. D. C. Boatwright, Marion
Dr. R. D. Campbell, Saltville

SOUTHAMPTON
Dr. J. J. Grizzard, Branchville
Dr. T. A. Morgan, Franklin

SPOTSYLVANIA
Dr. J. E. Cole, Fredericksburg
Dr. R. M. Shelton, Spotsylvania

STAFFORD
Dr. L. F. Lee, Fredericksburg

SURRY
Dr. B. H. Knight, Surry

SUSSEX
Dr. R. B. McEwen, Wakefield
Dr. M. Rosenburg, Waverly

TAZEWELL
Dr. Rufus Brittain, Tazewell
Dr. James Peery, Richlands
Dr. H. A. Porter, Boissevain

WARREN
Dr. D. M. Kipps, Front Royal

WARWICK
Dr. M. L. Horne, Hilton Village
Dr. C. P. Jones, Hilton Village

WASHINGTON
Dr. G. H. Wolfe, Abingdon
Dr. J. A. Wolfe, Abingdon

WESTMORELAND
Dr. E. T. Ames, Montross
Dr. C. H. Griffith, Machodoc

WISE
Dr. N. F. Hix, Wise

WYTHE
Dr. E. M. Chitwood, Wytheville

YORK
Dr. L. O. Powell, Seaford

CITY AND NAME OF CORONER

ALEXANDRIA
Dr. J. A. Sims

BRISTOL
Dr. Guy C. Richardson

BUENA VISTA
Dr. R. R. Eason

CHARLOTTESVILLE
Dr. Gregory Magruder
Dr. James B. Twyman

CLIFTON FORGE
Dr. L. A. Houff

DANVILLE
Dr. H. A. Wiseman, Jr.

FREDERICKSBURG
Dr. J. E. Cole

HAMPTON
Dr. P. J. Parker

HARRISONBURG
Dr. F. L. Byers

HOPEWELL
Dr. A. T. Brickhouse

LYNCHBURG
Dr. James Wilkins

MARTINSVILLE
Dr. Jethro H. Irby

NEWPORT NEWS
Dr. T. D. Walker
Dr. Lee B. Todd

NORFOLK
Dr. C. D. J. Macdonald

PETERSBURG
Dr. T. B. Pope

PORTSMOUTH
Dr. R. L. Corbell

RADFORD
Dr. H. L. Dean
Dr. T. L. Gemmill

RICHMOND
Dr. M. Markowitz, Medical College
Dr. Wm. F. Grigg, Jr., Medical College
Dr. B. W. Haynes, Jr., Medical College

ROANOKE
Dr. Charles M. Irvin

SOUTH NORFOLK
Dr. L. C. Ferebee

STAUNTON
Dr. R. P. Bell, Jr.
Dr. Charles F. Gaylord

SUFFOLK
Dr. E. C. Joyner

WILLIAMSBURG
Dr. J. M. Henderson

WINCHESTER
Dr. John R. Troxell

PHYSICIANS OFFICIALLY DESIGNATED TO PERFORM AUTOPSIES

CORONERS

Dr. F. L. Byers, Harrisonburg
Dr. George M. Caldwell, Christiansburg
Dr. H. L. Dean, Radford
Dr. W. P. Frazer, Hamilton
Dr. L. C. Ferebee, South Norfolk
Dr. T. L. Gemmill, Radford
Dr. K. D. Graves, Roanoke
Dr. R. H. Grubbs, Christiansburg
Dr. J. Paul Kent, Altavista
Dr. C. D. J. Macdonald, Norfolk
Dr. E. H. Marsteller, Manassas
Dr. R. L. Phipps, Clintwood
Dr. James Peery, Richlands
Dr. Thomas B. Pope, Petersburg
Dr. Guy C. Richardson Bristol
Dr. A. M. Showalter, Christiansburg
Dr. Russell B. Smiley, Salem
Dr. W. E. Smith, Farmville
Dr. R. F. Thornhill, Pulaski
Dr. E. P. Tompkins, Lexington
Dr. James Wilkins, Lynchburg
Dr. G. Hunter Wolfe, Abingdon
Dr. Nat H. Wooding, Halifax
Dr. Charles M. Irvin, Roanoke

PATHOLOGISTS

Dr. Frank Apperly and Staff, Medical College of Virginia, Richmond
Dr. M. B. Beecroft, Elizabeth Buxton Hospital, Newport News
Dr. James Cash and Staff, University of Virginia, Medical School, Charlottesville
Dr. M. L. Dreyfuss, C. & O. Hospital, Clifton Forge
Dr. V. J. Dardinski, Clinical Laboratories Georgetown University, Washington, D. C.
*Dr. L. S. Kau, Memorial Hospital, Winchester
Dr. J. D. Kernodle, Alexandria Hospital, Alexandria
Dr. T. J. Moran, The Memorial Hospital, Danville
Dr. L. J. Motyca, General Hospital, Norfolk
Dr. A. F. Strauss, DePaul Hospital, Norfolk

FOR VETERANS HOSPITALS ONLY

Dr. Edgar Baron, Kecoughtan
Dr. Joseph Kriz, McGuire Hospital, Richmond
Dr. Simon Russi, McGuire Hospital, Richmond

OTHER

Dr. W. J. Sturgis, Nassawadox

*Resigned December 1, 1947.

Epileptic Seizures Reduced.

The drug known under the trade name of "mesantoin" is proving far more effective than other drugs in reducing grand mal seizures in epileptics, writes Anthony E. Loscalzo, M.D., New York, in the October 25 issue of *The Journal of the American Medical Association.*

Grand mal is a form of epileptic attack in which the sufferer loses consciousness, twitches, and gets blue in the face. For three years Dr. Loscalzo studied 67 cooperative patients afflicted with grand mal who for the first time were treated with mesantoin in combination with phenobarbital. Fifty-five of them had previously been taking diphenylhydantoin sodium, usually combined with phenobarbital. The rest had been taking phenobarbital alone.

Dr. Loscalzo reports that the change in treatment reduced the total number of grand mal attacks experienced by these patients approximately 60 per cent, lessened the severity of their convulsions, and produced fewer toxic reactions. In 22 of the patients the seizures ceased completely shortly after the new regimen was instituted.

New Books

Some recent books received at the Library of the Medical College of Virginia, Richmond, are the following, which are available to our readers under usual library rules:

Ackerman—Cancer: Diagnosis, treatment and prognosis.
Cooper—Nutrition in health and disease. 10th ed.
Cope—The early diagnosis of the acute abdomen. 9th ed.
Cross—Social customs.
Duvall and Hill—When you marry.
Elliot—Textbook of the nervous system.
Endocrinology of neoplastic diseases, a symposium.
Ferguson—Surgery of the ambulatory patient.
Gates and Warren—Handbook for the diagnosis of cancer of the uterus.
Gifford—Handbook of ocular therapeutics. 4th ed., rev.
Koos—Families in trouble.
MacBryde—Signs and symptoms.
Major—Physical diagnosis. 3rd ed.
Manual for teaching midwives.
Mettler—History of medicine.
Scobee—The oculorotory muscles.
Top—Communicable diseases. 2nd ed.
Van Riper—Speech correction. 2nd ed.
Vanderlehr and Heller—The control of venereal disease.
Walsh—Clinical neuro-ophthalmology.
Wexburg—Introduction to medical psychology.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—Mrs. J. L. DeCormis, Accomac
President-Elect—Mrs. R. M. Reynolds, Norfolk
Recording Secretary—Mrs. M. H. Harris, West Point
Corresponding Secretary Mrs. Holland Trower, Eastville
Treasurer—Mrs. Reuben Simms, Richmond
Parliamentarian—Mrs. E. Latane Flanagan, Richmond
Historian—Mrs. H. A. Latane, Alexandria

Northampton-Accomac Auxiliary.

The regular quarterly meeting of this Auxiliary was held at the home of Mrs. J. Fred Edmonds, Accomac on January 13th, with eighteen members and one guest present.

A delicious luncheon and social hour preceded the business meeting which was opened by the president, Mrs. S. K. Ames, of Cape Charles.

An interesting exhibit of very old doctor's instruments was shown, including an old stethoscope, bleeder instrument, pestle and mortar, an instrument case containing saw, several very sharp double edged knives, tourniquet, tongue depressor, one of the very first microscopes, very, very small, with slides, an instrument called a probang used to remove foreign bodies from the stomach, lungs, bronchial tubes, etc., package of needles, very heavy linen thread, very fine pins, moulds for lead weights, old prescriptions to cure all ills, old saddle bags and copies of medical journals dating from 1851 to 1853, and a very fine set of anatomy plates in color. These were greatly enjoyed by all members, and Mrs. Ames gave an account of the medical students of those days, their problems, the cost of medical education, and their difficulties in obtaining it, the objections of the professors at that time to allowing women to attend the lectures, and forbidding them to be present at various operations.

A letter was read by Mrs. John R. Hamilton, *Hygeia* Chairman, from Northampton High School, and the Cape Charles High School thanking the Auxiliary for its gift subscriptions to these schools, and she also reported 32 subscriptions to *Hygeia,* the largest number ever to be reported at one meeting.

Mrs. Ames told of The Health Program Bill before the General Assembly for 1948, and discussed the Health Report of Medical Progress, which includes health, welfare, tuberculosis, and education.

Mrs. W. T. Green told of a Virginia physician who has been a patient at Blue Ridge for the past seven months, and who has been offered the use of The Leigh-Hodges-Wright Fund, in order that one more Virginia physician may be returned to practice as soon as possible. It was voted that this Auxiliary maintain this patient for one month as their guest.

Mrs. Green announced The March of Dimes, and told of The Infantile Paralysis Foundation's work of which Dr. W. T. Green is Chairman for Northampton County. She cited a case of infantile paralysis from Northampton County that is being treated at De Paul Hospital with county funds taking care of bills. State and Federal funds may be used should county funds give out. The average cost of treatment is from $1200.00 to $2000.00 per case. It can cost $10,000.00 for one patient in the iron lung.

The State President, Mrs. J. L. DeCormis announced the Mid-Winter Board Meeting at Richmond, January 20, and of several states offering prizes, and scholarships for essays, nursing and subscriptions to *Hygeia,* and *The Bulletin.*

The Auxiliary will be the guests of Mrs. John R. Hamilton and Mrs. W. T. Green, Jr., at Nassawadox on April 13th.

Catherine R. Trower
(Mrs. Holland)
Chairman Press and Publicity.

BOOK ANNOUNCEMENTS

The Years after Fifty. By WINGATE M. JOHNSON, M.D. Professor of Clinical Medicine and Chief of Private Diagnostic Clinic, Bowman Gray School of Medicine of Wake Forest College. With a Foreword by Morris Fishbein, M.D. Editor, *Journal of the American Medical Association.* Whittlesay House McGraw-Hill Book Company, Inc. New York:London. Price $2.00.

This little book of 153 pages is well worth reading by those who feel that they are growing old. Dr. Johnson traces the aging process of the various organs and systems of the body in a simple and attractive manner. The loss of physical vigor and stamina is counterbalanced by the growth of wisdom. He makes old age positively alluring to those who have been so fortunate as to have developed some mental hobbies.

M. P. R.

EDITORIAL

Rabies

MOST Americans have a warm spot in their hearts for dogs and the dog is frequently referred to as man's best friend. As we consider his usefulness in hunting, for protection, or as a playmate, not many will dispute this latter statement. It must be accepted, however, that the dog or other valued animals, when infected with rabies, may suddenly change to man's worst enemy. When this tragedy occurs the rabid animal may attack all who come within his range, necessitating expensive and frequently painful emergency medical care for all involved.

The serious nature of this problem is adequately demonstrated by the national report of 52,473 rabid animals reported in the period 1940-1945. An increase of 7,913 or 31.0 per cent is noted for 1943-1945. Rabies was held responsible for 225 human deaths in this same period, with 121 or an increase of 17 fatalities in the second three years. In Virginia, 164 animal rabies and 2 human cases were recorded in 1947, and 108 animals and one human case in 1946. Seventy-five per cent of the 1947 animal rabies' prevalence occurred in six of the one hundred Virginia Counties where, obviously, control measures applied were most inadequate.

Dr. H. W. Schoening, of the United States Department of Agriculture, has aptly pointed out, "Rabies is an outstanding example of a dangerous disease which could be controlled or eventually eradicated in this country, but which is not under control because of failure to impose and thoroughly carry out uniform regulations." This comment is confirmed, not only by increasing prevalence but also through a recent comprehensive and authoritative report of the Public Health Relations Committee of the New York Academy of Medicine. This was published by the United States Public Health Service and is based upon official information from all States and the District of Columbia and seven of nine Canadian Provinces. The legislative and administrative facilities provided in rabies control in these various areas are described as "chaotic". Important recommendations are presented in the report which might well be carefully studied for adoption by Virginia and many other States in which control measures are indicated.

During the seven year period, 1940-1946, rabies is responsible for the horrible death of 225 Americans, men, women and children. Six needless deaths occurred in Virginia during the past eight years. When treatment is required subsequent to animal bite, the economic loss in medical care and in time is an appreciable major factor in this problem, and this does not include the physical and mental distress resulting from the injury. It is conservatively estimated that the nation suffers an economic loss in excess of $200,000 per annum through animal rabies. From the view point of the individual owner and the community this loss is frequently a serious matter.

The problem in Virginia is sufficiently important to necessitate immediate legislative and administrative action. Responsibilities for control and prevention should be placed in one department empowered with sufficient authority to continuously operate an approved program. Such states as Massachusetts and New York and abroad, England and Australia, have practically eradicated rabies through effective programs.

W. A. BROWNE, M. D.

EDITOR'S NOTE: Director, Communicable Disease Control, Virginia State Health Department, Richmond.

Anesthesiology

FOR more than four years we have been celebrating centenaries of the discovery of anesthesia. The importance of the discovery cannot be overemphasized. It was the first of the two great discoveries that made modern surgery possible. Today one can scarcely imagine what surgery would be like without anesthesia and asepsis. A centenary is not only a time for looking backward, but is also a time for looking forward. A pertinent question now is what place anesthesiology should occupy in the medical curriculum and what part the anesthetist should play in surgery.

Already certain medical schools have departments of anesthesiology where teaching and research on a more or less large scale is conducted. McGill, the University of Wisconsin and Louisiana State University are notable examples. The *Monthly* was fortunate in having the Chief of the Department at McGill as guest editor in January. In addition some of the large clinics, such as the Mayo Clinic and the Lahey Clinic, have similar departments. Here the anesthetist not only plans and supervises the anesthesia, but also has charge of all intravenous administrations and blood transfusions.

At present most of the anesthesia throughout the land is induced by dentists, and by nurses and doctors without special training. Their ideas and the training they have received vary tremendously. As would be expected the results also vary widely, —just how widely it is difficult to say. On the whole the results are good compared with what they were in the past. Seldom do we hear of an anesthetic death. If you asked the coroner, he would probably give present day anesthesia a good report. On the other hand there are many deaths in which the anesthesia may have had a part, not that it was badly administered, but choice of the type of anesthesia was at fault. To evaluate this statistically, is impossible, but seldom do we attend a conference upon mortality reports, where this question is not brought up. This is particularly true of maternal deaths. Should this woman with a cardiac involvement have been given ether or that toxic patient been given a general anesthetic, are questions we hear at every meeting. The deaths are charged to the heart lesion or to the toxemia, but the real question is, how many of these patients could have been saved if the anesthesia had been different. The difference between a specialist in anesthesia and one less adequately trained is shown more convincingly in the postoperative comfort of the patient. Once the surgeon (and the patient) has had the benefit of the specialist he will want no other.

The time has passed when any one form of anesthesia is adequate. We no longer hear the heated arguments about whether ether is better than chloroform, or nitrous oxide is better than ethylene or cyclopropane. Nor is so much emphasis put on the various gadgets as formerly. The possession of a good set of clubs does not make a good golfer. Good management before, during and after operation is the hall mark of a specialty status, and this we are beginning to see in various places throughout the land. We are beginning to learn that the anesthetist is an important and essential member of the surgical team. The surgeon already knows, and the public should be taught that good anesthesia is good insurance, and that competent management of the anesthesia problem is worth what little it costs.

Dr. Julian Rawls, 1881-1948

ON January 18th, Dr. J. L. Rawls, the ninetieth president of the Medical Society of Virginia, died in a Norfolk hospital after an illness of several months. Dr. Rawls was one of Norfolk's outstanding surgeons and was a leader in civic and

educational affairs. The Tidewater Hospital Service Association, of which he was president since its inception in 1935, owes much of its success to his foresight and wisdom. He was also responsible in a large measure for the establishment in 1938 of a diagnostic tumor clinic in Norfolk. In October of last year he received the first J. Shelton Horsley Memorial Award of Merit, presented by the Virginia Division of the American Cancer Society in recognition of his contributions to the cause of cancer control.

Julian Lamar Rawls, the son of Dr. Gavin Rawls and Mrs. Susan Norfleet Rawls, was born in Carrsville, Isle of Wight County, July 26, 1881. He received his academic training at Franklin Academy in Franklin and at the University of Richmond, after which he studied medicine at the Medical College of Virginia. Upon his graduation in 1904, he served as interne at St. Vincent DePaul and at Sarah Leigh (Leigh Memorial) Hospitals. Since 1910 he has been on the staffs of St. Vincent DePaul, the Norfolk General and the Leigh Memorial Hospitals, and at one time or another was the president of each. During World War II, he was chairman of the medical division of the procurement and assignment service of the Second Congressional District. He held the rank of Lieutenant Commander in the Naval Reserve (1933-1939), and was later surgeon in the United States Public Health Service Reserve. Dr. Rawls was past president of the Norfolk County Medical Society, the Seaboard Medical Society, the Southeastern Surgical Congress and the Association for the Study of Neoplastic Diseases.

Dr. Rawls has worked diligently for the medical profession in Virginia. He served on many important committees of the Medical Society of Virginia and in its House of Delegates and on its Council. His presidency was noteworthy for expeditious conduct of the business of the Society. It was in his administration that the department of Public Relations was inaugurated. At the time of his death, he was on the Governor's Advisory Legislative Council on Medical Matters.

He is survived by his wife, the former Miss Elizabeth C. Carlos, of Baltimore; two daughters, Miss Eleanor Rawls of Norfolk and Mrs. William C. Longua of Montclair, N. J.; three grandchildren and two sisters, Mrs. William A. Biggs of Baltimore and Mrs. R. S. Dodson of Westchester County, N. Y.

Dr. J. E. Knight, Councilor from the Eighth District

THE January *Monthly* announced the death of Dr. J. E. Knight of Warrenton. The news came as we were going to press and we were unable to do more than announce the sad fact. On December 30th, while interviewing a patient in his office, he had a heart attack and died within an hour. Thus passed a good doctor in the way he probably would have chosen—characteristically of the doctor's disease, while busy at his work.

John Elwood Knight was born December 11, 1883, in Fredericksburg, the son of John T. Knight. He graduated at Fredericksburg College in 1905 and at the Medical College of Virginia in 1908. His entire professional life was spent in Fauquier County. At first he located in Bristersburg, but in 1929 he removed to Warrenton, where he entered into the life of the community to an unusual extent. He was a vice-president of the Fauquier County Medical Society and a director of the Physicians' Hospital, Inc., of Warrenton. Besides he took an active part in the Warrenton Methodist Church, was a Rotarian and a member of the Mount Carmel Lodge No. 133 A.F. & A.M. and Acca Shrine Temple, Knights Templar. He was also a 32nd Degree Mason.

Dr. Knight was actively interested in the Medical Society of Virginia. He was Councilor for the Eighth District for six terms between 1928 and 1940. In 1946 he was elected for his seventh term. In his untimely death the Society loses a loyal and wise Councilor.

SOCIETIES

The Albemarle County Medical Society

Held its regular meeting on January the 8th, at which time the following officers were elected for 1948: President, Dr. Percy Harris, Scottsville; vice-president, Dr. W. Norman Thornton, Charlottesville; and secretary-treasurer, Dr. George Cooper, Jr., Charlottesville (re-elected).

Arlington County Medical Society.

At its first meeting for 1948, held January 15th, several new members were admitted, following which Dr. John Leary gave an interesting talk on "The Diagnosis of the Nervous Patient".

Dr. Walter P. Hammer is president of this Society and Dr. Leo Solet secretary.

Fourth District and Southside Virginia Medical Society.

At its December meeting, the following officers were elected: President, Dr. Herbert Jones, Petersburg; vice-presidents, Drs. P. L. Hill, Petersburg; and J. B. Kiser, Emporia; secretary-treasurer, Dr. William S. Sloan, Petersburg; and chairman of steering committee, Dr. Fletcher J. Wright, Jr., Petersburg.

The Lynchburg Academy of Medicine

Met on January 12th with Dr. H. L. Riley, Jr., new President, presiding. Dr. F. R. Whitehouse presented a paper on "Gastroscopy", and in accordance with the By-Laws, the new secretary was elected at this time. Dr. John T. T. Hundley was named for this position.

Patrick-Henry Medical Society.

The regular quarterly meeting of the Patrick Henry Medical Society was held at the Broad Street Hotel in Martinsville on January 9th.

The following committees were appointed: *Program,* Dr. B. A. Hopkins, Chairman, Dr. Henkel Price, Dr. G. B. Dudley; *Membership,* Dr. T. H. Dickerson, Chairman, Dr. L. A. Faudree, Dr. W. C. Akers; *Ethics,* Dr. F. B. Teague, Chairman, Dr. Gordon J. Axelson, Dr. D. L. Fleshman; *Public Relations,* Dr. J. H. Irby, Chairman, Dr. John W. Clark, Dr. Brown Dudley, Dr. D. H. Mason, Dr. J. T. Shelburne.

Visitors present were Dr. W. C. Brann of South Boston, Dr. J. R. Clark, and Hon. Richard Broaddus.

The speaker of the evening was Mr. Henry Johnson, head of Public Relations Department of the Medical Society of Virginia. President Thompson introduced Mr. Johnson who spoke on Medical Public Relations.

J. H. IRBY, *Secretary*

Warwick County Medical Society.

On December 18th, the following officers were elected for the ensuing year: President, Dr. William Mitchell; vice-president, Dr. William Hart Woodson; and secretary-treasurer, Dr. George S. Grier, III. All are of Newport News. Following the business session, the Society adjourned to attend the annual oyster roast at Mills Wharf, Seaford. They were accompanied by members of the Woman's Auxiliary.

The South Piedmont Medical Society

Held its 77th meeting at the Virginian Hotel, Lynchburg, on November 12th, under the presidency of Dr. L. P. Bailey, Nathalie. The following scientific program was presented: "Country Doctor 1947" by Dr. Nat Wooding, Halifax; "Acute Respiratory Infections" by Dr. Harvey C. Brownley, Lynchburg; "Some Pathological and Surgical Aspects of Lung Tumors" by Dr. Howard Bradshaw, Professor of Surgery, Bowman-Gray School of Medicine, Winston-Salem, North Carolina; "Pleurisy with Effusion" by Dr. Lemuel R. Broome, Danville; and "Practical Ophthalmology" by Dr. Frederick M. Morrison, Lynchburg.

Officers elected for 1948 are: President, Dr. Snowden C. Hall, Jr., Danville; vice-presidents, Drs. William Watkins, South Boston, Harold L. Riley, Lynchburg, and G. V. Thompson, Chatham; and secretary-treasurer, Dr. George B. Craddock, Lynchburg, re-elected. The next meeting will be in the Spring at South Boston.

The Virginia Peninsula Academy of Medicine

Held its January meeting on the 19th with Dr. Paul Hogg of Newport News presiding. There was an attendance of ninety and the speaker of the evening was Dr. Russell L. Haden of the Cleveland (Ohio) Clinic, whose subject was "Leukemia". Dr. Haden attended upon the invitation of Dr. Russell Buxton. Dr. Chester D. Bradley is secretary of the Academy.

NEWS

Southern Medical Association Officers.

At the meeting of the Association held in Baltimore in November, Dr. Lucien A. LeDoux, New Orleans, was installed as president, and the following officers elected: President-Elect, Dr. Oscar B. Hunter, Washington, D. C.; Vice-Presidents, Drs. Hamilton W. McKay, Charlotte, N. C., and Charles Reid Edwards, Baltimore; Secretary-Manager, Mr. C. P. Loranz, Birmingham (reelected); and Editor of Journal, Dr. M. Y. Dabney, Birmingham (reelected). Dr. T. Dewey Davis, Richmond, is Councillor for Virginia. The following doctors from Virginia were named on the various sections: Medicine — Dr. H. B. Mulholland, University, vice-chairman; Dermatology and Syphilology—Dr. J. W. Anderson, Norfolk, vice-chairman; Allergy—Dr. J. Warrick Thomas, Richmond, chairman, and Dr. W. Ambrose McGee, Richmond, vice-chairman; Physical Medicine—Dr. Walter J. Lee, Richmond, secretary; Urology—Dr. Samuel A. Vest, Charlottesville, vice-chairman; Women Physicians — Dr. Emily Gardner, Richmond, chairman. Mrs. E. Latane Flanagan, Richmond, was elected recording secretary of the Auxiliary.

American College of Chest Physicians.

The Southern Chapter of the College met conjointly with the Southern Medical Association in Baltimore in November. Dr. Herbert L. Mantz, Kansas City, Missouri, was elected president; Drs. Dean B. Cole, Richmond, and David H. Waterman, Knoxville, Tennessee, vice-presidents; and Dr. Hollis E. Johnson, Nashville, secretary-treasurer.

Medical College of Virginia News.

Dr. A. J. Carlson, Emeritus Professor of Physiology at the University of Chicago, spoke on January 8th on the subject "Some Obstacles in the Path Toward an Optimum Diet for Man". This was the eighth annual lecture at the college sponsored by Phi Beta Pi, an honorary medical fraternity.

A course in Elementary Electrocardiography will be offered by the Department of Continuation Education of the College from February 9 to 13, according to Dr. Charles M. Caravati, Director of the Department of Continuation Education and Assistant Professor of Clinical Medicine. The course will consist of didactic lectures and demonstrations dealing with the basic principles and practical applications of electrocardiography with some sessions devoted to exercises in the interpretation of tracings.

The MCV Ex-Interne Association which was discontinued during the War will be revived as an organization in the near future, according to Mr. C. P. Cardwell, Jr., Director of the College Hospitals. It is expected that around April a get-together meeting will be held but there will be a definite announcement later. In the meantime all members are requested to notify Mr. Cardwell of any change of address since the Association last met.

Dr. Perrin H. Long Professor of Preventive Medicine at Johns Hopkins University, delivered the first Lewis T. Stoneburner III, Lecture in Internal Medicine at the College on January 30th. His subject was "The Choice of Sulfonamides and Antibiotic Agents in the Treatment of Infections". This Lecture was established at the College by friends of the late Captain Stoneburner, who were members of the 45th General Hospital Division with him during World War II. Dr. Long, under whom Dr. Stoneburner served in North Africa during the War, has made outstanding contributions in investigative work in connection with the development of the sulfonamides. He was awarded the Gold Medal of the Southern Medical Association in 1942 for his outstanding work in chemotherapy.

Dr. Nathan Bloom, Associate Professor of Medicine, and Dr. Reno Porter, Associate in Medicine, at the Medical College of Virginia conducted a two day symposium on cardiovascular diseases at the Veterans Administration Hospital in Roanoke on January 21 and 22.

The National Conference on Medical Service

Will be held in Chicago on February 28th. Because the program features wide-open discussions of important controversial problems affecting medical practice, hospitals and nursing, the Conference promises to be of outstanding interest to general practitioner and specialist alike, according to E. F. Sladek, M. D., Traverse City, Michigan, Secretary. Dr. Creighton Barker, New Haven, Connecticut, is President. At the morning session papers will be presented on "The Practice of Medicine by Hospitals, Health Departments and Medical Schools"; "Medical Public Relations Begins in the Doctor's Office"; and "Nursing Problems in America". The afternoon will be given over to panel presentations on General Practice and Specialty Boards, followed by discussion with general audience participation.

Married.

Dr. David C. Wilson, Jr., son of Dr. and Mrs. David C. Wilson of Charlottesville, and Miss Sally Peeples Wing of Winter Park, Florida, on January 31. Dr. Wilson is now interning at the University of Syracuse Hospital, Syracuse, N. Y.

The American Board of Ophthalmology

Announces practical examinations for 1948 to be held in Baltimore, May 20-25, and in Chicago, October 6-9. Written qualifying tests will be held annually, probably in January of each year. Applications for the January 1949 tests must be filled with the Secretary before July 1, 1948.

All communications should be addressed to the Board at Cape Cottage, Maine.

Dr. Edward V. Brush, Jr.,

Lexington, was installed as president of the Kiwanis Club of that town at its meeting on January 2nd.

Dr. F. E. Oglesby,

Formerly of Emporia, has located in Richmond where he is associated with Dr. E. E. Haddock in the general practice of medicine. Their offices are at 1133 West Franklin Street.

Dr. James A. Miller

Was elected to the Board of Control of the Winchester Exchange Club at its annual meeting in December.

Dr. H. L. Greenberg,

Class of '40, University of Virginia, Department of Medicine, is at the Boston (Mass.) City Hospital where he has received an appointment in the Department of Radiology. He expects to be there for three years.

Dr. P. W. Oden,

Recently on the staff of the Mattie Williams Hospital, Richlands, has located for practice at Oak Hill, W. Va.

This Week in Chicago Medicine.

The Chicago Medical Society has inaugurated a weekly mimeographed publication entitled "This Week in Chicago Medicine". It has been designed to keep the medical profession posted on "what's going on" and to aid out-of-town physicians who may be in Chicago and wish to visit clinics, conferences, round tables or medical meetings.

The Society is sending copies of this weekly publication to all medical libraries, medical schools and city medical societies in the country; to all Illinois hospitals as well as the hospitals of larger cities in states adjacent to Illinois for posting on bulletin boards.

Any doctor planning a trip to Chicago may secure copies of this bulletin by writing to the Chicago Medical Society, 30 North Michigan Avenue, Chicago 2 or he may secure copies by calling in person.

International Surgical Assembly.

The Sixth International Assembly of the International College of Surgeons will be held in Rome, Italy, at the invitation of the Italian Government, during the week of May 16-23, 1948, under the presidency of Professors Raffaele Bastianelli and Raffaele Paolucci of Rome, and Mario Dogliotti of Turin. The Secretary of the Assembly is Prof. Giuseppe Bendandi of Rome. Attendance is not limited to the membership of the College; all surgeons in good standing in their medical organizations are invited. Scientific meetings, scientific and commercial exhibits, visits to the Universities of Turin and Milan have been arranged, together with tours to other medical centers in Europe. A special exhibits of ancient texts on surgery is being arranged by Prof. Davide Giordano of Venice, Honorary President, under the active presidency of Prof. Adalberto Pazzini, Professor of History at the University of Rome. This extraordinary exhibit dealing with ancient surgery will be on display

in the Vallicelliana Library in one of the historical buildings of the Vatican. Detailed information may be obtained from Dr. Max Thorek, General Secretary, 850 Irving Park Road, Chicago 13. For travel information, address the All Nations Travel Bureau, 38 S. Dearborn Street, Chicago, the official travel representatives for this Assembly. Those desiring to present scientific papers address Dr. Karl Meyer, Cook County Hospital, Chicago; Dr. Henry W. Meyerding, Mayo Foundation, Rochester, Minnesota; or Dr. Herbert Acuff, Acuff Clinic, 514 W. Church Street, Knoxville, Tennessee. Those from Canada should direct their inquiries to Dr. Lyon Appleby, 925 W. Georgia Street, Vancouver, B. C.

News from the University of Virginia School of Medicine.

On November 21, 1947, Dr. Eugene Stead, Professor of Medicine at Duke University, gave the annual Phi Lambda Kappa lecture, his subject being "Edema".

A bequest of $10,000 for medical research was included in the will of the late Mrs. Lottie Antrim of Waynesboro, Virginia, as a memorial to her late daughter, Miss Mildred M. Antrim.

On January 5th, Dr. Alfred Blalock, Professor of Surgery at the Johns Hopkins University, spoke on the subject of "Pulmonic Stenosis".

A research grant of $24,800 has been received from the Cancer Control Branch of the Federal Security Agency.

On January 8th, Dr. H. B. Mulholland, Professor of Practice of Medicine, spoke on the subject, "Difficulties of Treatment of Diabetes, including Insulin Atrophies and Hypoglycemia", at the Symposium on Diabetes, held in Cleveland, Ohio. This symposium was held under the auspices of the American Diabetes Association, in connection with the interim meeting of the American Medical Association.

On January 12th, Dr. Frank L. Meleny, Associate Professor of Surgery at the College of Physicians and Surgeons of Columbia University, spoke on the subject of the "Employment of Antibiotics in the Treatment of Surgical Infections."

On January 16th, Rear Admiral Clifford A. Swanson, Surgeon General of the U. S. Navy, spoke on the subject of "Nutritional and Medical Conditions in Europe and the Near East".

Dr. Herman Laibstain

Has opened his office at 112 East Sewells Point Road, Norfolk, with practice limited to allergy. He has recently completed one year of post-graduate study at the Allergy Unit of the University of Illinois in Chicago.

Dr. John Rogers Mapp,

Recently of Charlottesville, announces the opening of his office in the Northampton Accomack Memorial Hospital, Nassawadox, where he will limit his practice to Roentgenology. He was trained at the University of Virginia Hospital and served with the 8th Evacuation Hospital during World War II.

Dr. D. F. Love,

Recently of Harman, is now located in the Witten Building, Pearisburg, where he is engaged in general practice.

Dr. Joseph M. Dixon,

Recently of Radford, is now at Washington University, St. Louis, where he is doing graduate work in ophthalmology. On July 1st, he will begin a two year appointment in ophthalmology at the University of Cincinnati and will be associated with Dr. Donald Lyle in neuro-ophthalmology.

Dr. Claude M. Lee,

Who spent the past year at St. Andrews Hospital, Wusih, Kiangsu, China, has returned to this country and is now in Alexandria where he will be associated in practice with his son-in-law, Dr. John E. Roberts.

Postgraduate Course in Diseases of the Chest.

The American College of Chest Physicians, Pennsylvania Chapter, and the Laennec Society of Philadelphia are sponsoring a postgraduate course in diseases of the chest to be held during the week of March 15-20 at the Warwick Hotel, Philadelphia, Pennsylvania.

The emphasis in this course will be placed on the newer developments in all aspects of diagnosis and treatment of diseases of the chest. The course will be limited to 30 physicians. Tuition fee is $50.00 for members, and $90.00 for non-members.

Further information may be secured at the office of the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

Wanted.

North Carolina Clinic which is enlarging has two openings:

Ophthalmologist-Otolaryngologist, must be well trained.

One general medical man with some experience in handling industrial cases.

Send reply to N. C. Clinic, % Virginia Medical Monthly, 1200 East Clay Street, Richmond, Virginia. (*Adv.*)

Situation Wanted.

Experienced secretary. Able to assist in general routine office work for a doctor in a small town or country practice. Address "Secretary", care this journal, 1200 East Clay Street, Richmond 19, Va. (*Adv.*)

For Sale—

Complete eye, ear, nose and throat equipment and office furniture. Address "Specialist" care Virginia Medical Monthly, 1200 East Clay Street, Richmond 19, Va. (*Adv.*)

Opportunity,

Princeton, W. Va. Completely furnished offices and operating room. Everything modern; includes long lease and all furnishings, library and equipment on terms to suit reliable purchaser. Have retired. Dr. I. T. Peters, Princeton, W. Va. (*Adv.*)

Wanted—

Young doctor to take over well established practice in rural community in Tidewater section of Virginia. General practice including obstetrics. Hospital connections. Modern fully equipped office. Available April 1. P.O. Box 273, Gloucester, Virginia. (*Adv.*)

OBITUARIES

Dr. John E. Womack,

Well known Staunton physician, died January 7th, having been taken suddenly ill at a hospital staff meeting the previous evening. He was sixty-five years of age and a graduate from the Medical College of Virginia in 1909. Dr. Womack practiced at Mt. Sidney and in West Virginia prior to locating in Staunton in 1918. He saw service in World War I, and in World War II was chairman of the medical examining board of the local selective service board. He was a member of the American Legion, a Mason, and was for a number of years secretary-treasurer of the Augusta County Medical Association. He had been a member of the Medical Society of Virginia for a number of years. His wife and several sisters survive him.

Dr. Frank Hubert Crawford,

Well known eye, ear, nose and throat specialist of Staunton, died at his home at Mount Sidney on January 14. He was seventy-four years of age and a graduate of the former College of Physicians and Surgeons of Baltimore in 1896. Shortly thereafter he located at his home in Augusta County where he practiced until 1929 when he went to Vienna for a year's study in diseases of the eye, ear, nose and throat. Upon his return he opened an office in Staunton for this line of work, in which he continued until his recent illness. His widow and a sister survive him.

Dr. Stanley Burt Ellis,

Wakefield, died on January 2nd in Petersburg. He was a native of Sussex County and sixty-six years of age. He graduated from the Medical College of Virginia in 1908 and had practiced in Wakefield for thirty-four years. Several sisters and brothers survive him.

Dr. Robert Herbert Wright,

For many years a prominent eye, ear, nose and throat specialist of Richmond, died December 22 at his home in Newton Center, Mass., to which place he moved on retiring from practice in Richmond in 1943. He was sixty-eight years of age and graduated in medicine from the University of Virginia in 1900. Surviving are two sisters and two brothers. Burial was at his former home, Petersburg, Va.

Dr. Joseph Atkinson Thomas,

Valdosta, Ga., died December 21, at his home in that place. He was a member of the class of 1908 of the former University College of Medicine, Richmond, Va., and shortly thereafter returned to his home in Valdosta for the practice of his profession.

Dr Julian L. Rawls.

We regret to announce the death of Dr. Rawls, a past president of the Medical Society of Virginia. A notice appears in the Editorial columns of this issue.

"The most satisfactory results . . ."

IRRITABLE BOWEL SYNDROME

"Therapeutic efforts toward the relief of constipation in patients with an irritable bowel syndrome must be continued over prolonged periods of time. Cathartics which exert their action by direct irrigation of the intestinal mucosa have no place in long-term bowel management. . . . The most satisfactory results were obtained with a hydrophilic mucilloid [Metamucil] prepared from psyllium seed. . . ."*

METAMUCIL

When prolonged treatment is indicated, Metamucil—the "smoothage" management of constipation—fits well into the program.

Smooth, gentle, normal evacuation—the desired action in the irritable bowel syndrome—is afforded by the use of Metamucil.

Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. Metamucil is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois.

*Dolkart, R. E.; Dentler, M., and Barrow, L. L.: The Effect of Various Types of Therapy in the Management of the Irritable Bowel Syndrome. Illinois M. J. *90*:287 (Nov.) 1946.

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

SAINT ALBANS SANATORIUM

RADFORD, VIRGINIA

A private institution for the diagnosis and treatment of nervous and mental disease, alcoholism and those requiring general up-building

JAMES P. KING, M.D. J. K. MORROW, M.D. D. D. CHILES, M.D. T. E. PAINTER, M.D.

STUART CIRCLE HOSPITAL

413-21 STUART CIRCLE

RICHMOND, VIRGINIA

Medicine:
ALEXANDER G. BROWN, JR., M.D.
MANFRED CALL, III, M.D.
M. MORRIS PINCKNEY, M.D.
ALEXANDER G. BROWN, III, M.D.
JOHN D. CALL, M.D.

Obstetrics and Gynecology:
WM. DURWOOD SUGGS, M.D.
SPOTSWOOD ROBINS, M.D.

Ophthalmology, Otolaryngology:
W. L. MASON, M.D.

Pediatrics:
ALGIE S. HURT, M.D.
CHARLES P. MANGUM

Orthopedics:
BEVERLEY B. CLARY, M.D.

Pathology:
REGENA BECK, M.D.

Bacteriology:
FORREST SPINDLE

Surgery:
CHARLES R. ROBINS, M.D.
STUART N. MICHAUX, M.D.
A. STEPHENS GRAHAM, M.D.
CHARLES R. ROBINS, JR., M.D.
CARRINGTON WILLIAMS, M.D.
RICHARD A. MICHAUX, M.D.

Urological Surgery:
FRANK POLE, M.D.
MARSHALL P. GORDON, JR., M.D.

Oral Surgery:
GUY R. HARRISON, D.D.S.

Roentgenology and Radiology:
FRED M. HODGES, M.D.
L. O. SNEAD, M.D.
HUNTER B. FRISCHKORN, JR., M.D.
RANDAL A. BOYER, M.D.

Physiotherapy:
MOZELLE SILAS, R.N., R.P.T.T.

Director:
MABEL E. MONTGOMERY, R.N., M.A.

changing practice in **immunization**

"Council-Accepted" Diphtheria and Tetanus Toxoids, Alum Precipitated, and Pertussis Vaccine Combined, with antigenic content of *H. pertussis* increased to 45,000 million organisms per immunizing treatment, affords you and your patient

1 Fewer Injections

2 Simultaneous Immunization

3 More Rapid Protection

4 Time Saved

5 Economy

The use of multiple antigens, particularly combinations of diphtheria and tetanus toxoids, alum precipitated, and pertussis vaccine, is part of the changing practice in immunization.

Recommended for infants and pre-school age children, immunization consists of three 0.5 cc. subcutaneous injections at intervals of from four to six weeks.

SUPPLIED:

Single Immunization package contains three ½ cc. Vials

Five Immunizations package contains three 2½ cc. Vials

DIPHTHERIA and TETANUS TOXOIDS, ALUM PRECIPITATED, and PERTUSSIS VACCINE COMBINED

NATIONAL

THE NATIONAL DRUG COMPANY
Philadelphia 44, Pa.

PHARMACEUTICALS, BIOLOGICALS, BIOCHEMICALS
FOR THE MEDICAL PROFESSION

It Can Happen Here

Example of severe rickets in a sunny clime.

LEST WE FORGET—we who are of the vitamin D era—severe rickets is not yet eradicated, and moderate and mild rickets are still prevalent. Here is a white child, supposedly well fed, if judged by weight alone, a farm child apparently living out of doors a good deal. This boy was reared in a state having a latitude between 37° and 42°, where the average amount of fall and winter sunshine is *equal to that in the major portion of the United States.* And yet such stigmata of rickets as *genu varum* and the quadratic head are plain evidence that rickets does occur under these conditions.

How much more likely, then, that rickets will develop among city-bred children who live under a smokepall for a large part of each year. True, vitamin D is more or less routinely prescribed nowadays for infants. But is the antiricketic routinely administered in the home? Does the child refuse it? Is it given in some unstandardized form, purchased from a false sense of economy because the physician did not specify the kind?

A uniformly potent source of vitamin D such as Oleum Percomorphum, administered regularly in proper dosage, can do more than protect against the gross visible deformities of rickets. It may prevent hidden but nonetheless serious malformations of the chest and the pelvis and will aid in promoting good dentition. Because the dosage is measured in *drops*, Oleum Percomorphum is well taken and well tolerated by infants and growing children.

OLEUM PERCOMORPHUM WITH OTHER FISH-LIVER OILS AND VIOSTEROL

Potency, 60,000 vitamin A units and 8,500 vitamin D units per gram. Supplied in 10 cc. and 50 cc. bottles; and as capsules in bottles containing 50 and 250.

MEAD JOHNSON & COMPANY, EVANSVILLE, INDIANA, U.S.A.

Please enclose professional card when requesting samples of Mead Johnson products to co-operate in preventing their reaching unauthorized persons

LIBR

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Guest Editorial. K. D. Graves, M.D. ---------- 107

The Virginia Hospital Survey and Construction Program Under the Hill-Burton Act. L. J. Roper, M.D., Richmond, Virginia ---------- 108

The Selection of Cases and the Surgical Treatment of Hypertension. C. C. Coleman, M.D., J. M. Meredith, M.D., and C. E. Troland, M.D., Richmond, Virginia ---------- 110

Traumatic Appendicitis. Stanley H. Macht, M.D., Baltimore, Maryland ---------- 122

Roentgen Manifestations of Intra-Abdominal Abscess. Samuel Richman, M.D., Richmond, Virginia ---------- 124

The Treatment of Laryngeal Tuberculosis with Streptomycin. Francis H. McGovern, M.D., and L. R. Broome, M.D., Danville, Virginia ---------- 129

Treatment of Rheumatoid Arthritis. M. Morris Pinckney, M.D., Richmond, Virginia ---------- 131

Treatment of Migraine. J. Warrick Thomas, M.D., Richmond, Virginia ---------- 134

Cirrhosis of the Liver—Some Comments Upon the Clinical Diagnosis and Medical Management. Lloyd L. Thompson, Jr., M.D., Richmond, Virginia ---------- 137

Continued on page 6.

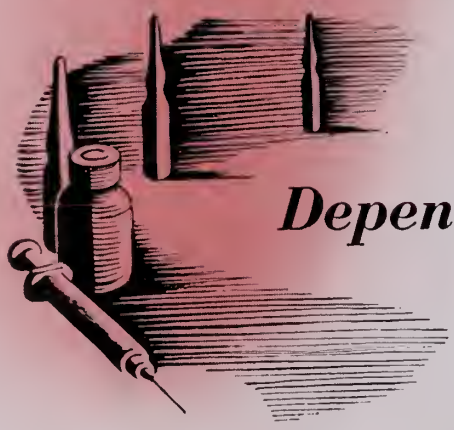
March, 1948

THEELIN:

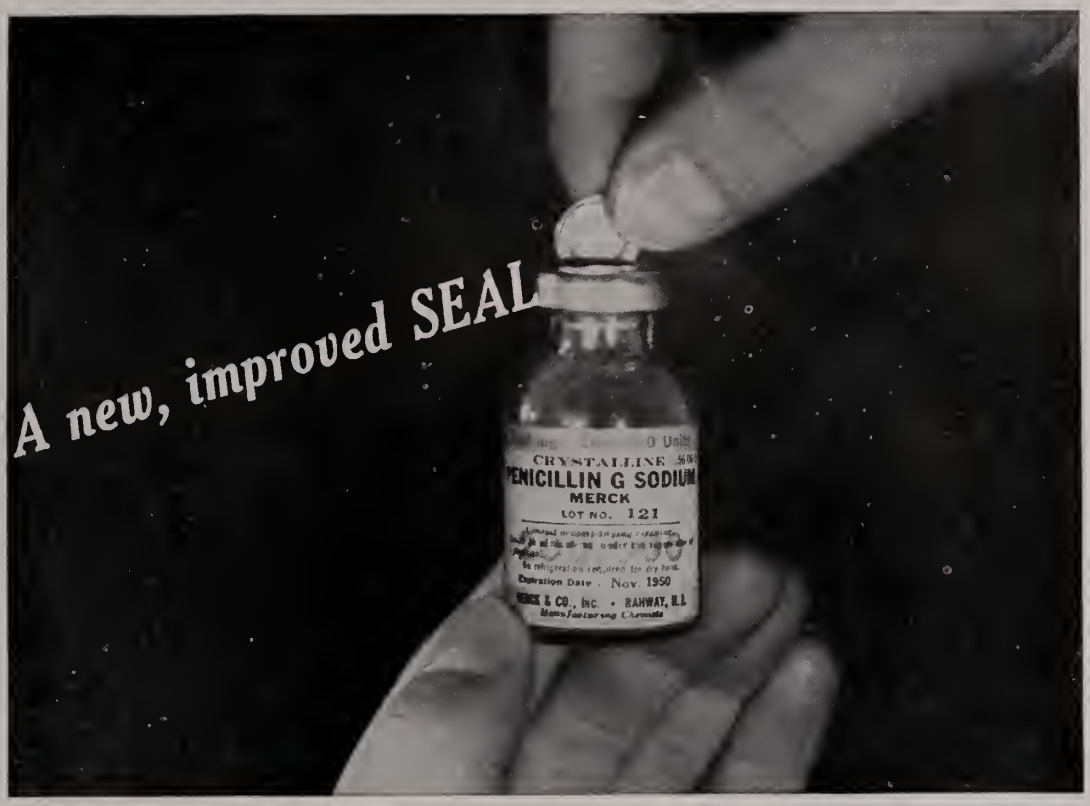
continuing

Naturally occurring

Pure crystalline



Dependable estrogen



Crystalline Penicillin G Sodium Merck is now supplied in vials with a new, improved aluminum seal.

Among the advantages provided by this new seal are:

- The round tear-off tab is easily removable and eliminates the necessity of using a knife or other implement to pry up the tab.
- The tight-fitting dust cap with skirt provides protection for the rubber stopper during storage of the vial between injections.

Crystalline Penicillin G Sodium Merck is a highly purified product from which therapeutically inert materials have been virtually eliminated.

For Penicillin of the highest quality—

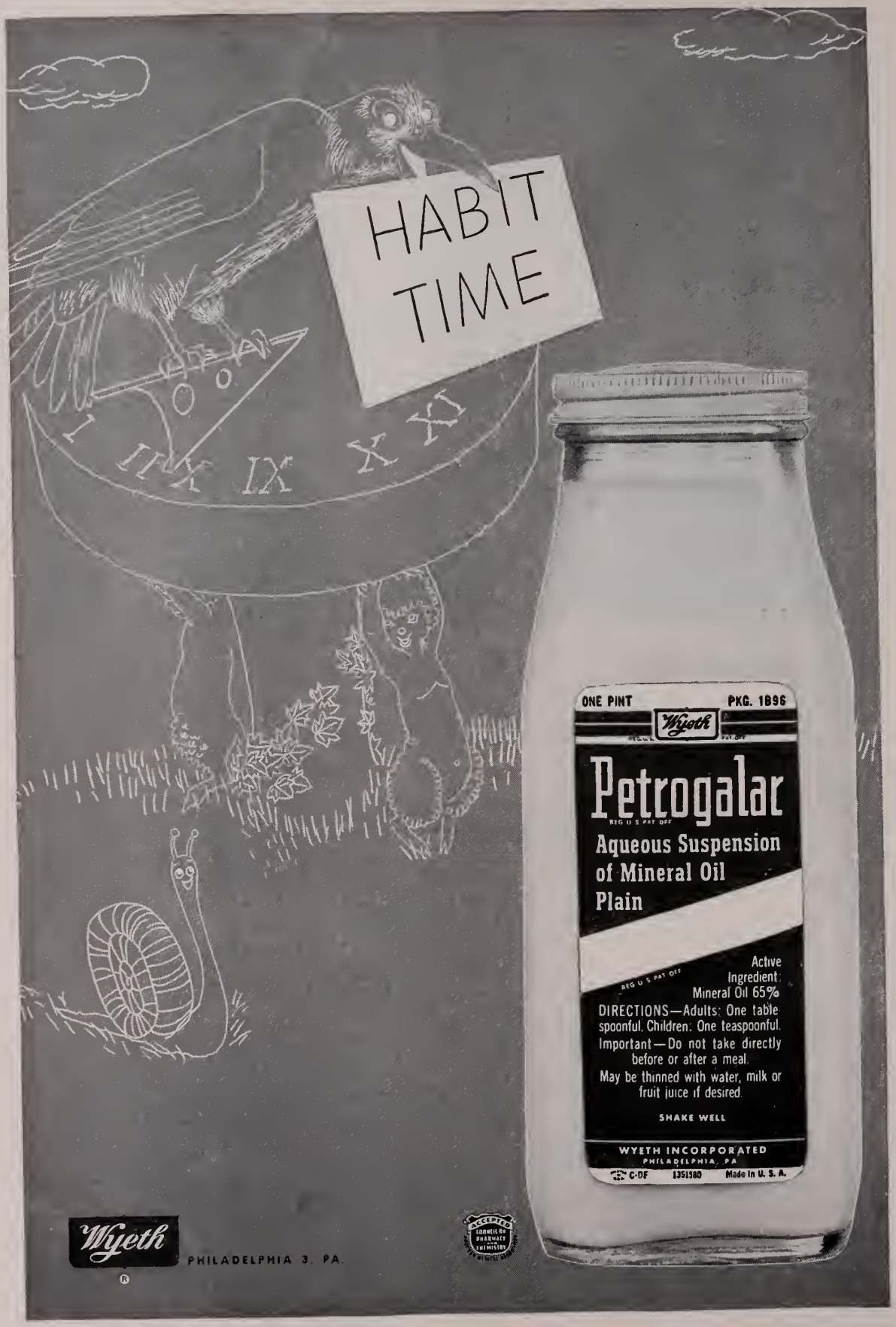
SPECIFY MERCK!

CRYSTALLINE
PENICILLIN G SODIUM
MERCK

MERCK & CO., Inc. RAHWAY, N. J.

Manufacturing Chemists

MERCK


HABIT
TIME
ONE PINT
PKG. 1896
Wyeth
Petrogalar
REG U S PAT OFF
Aqueous Suspension
of Mineral Oil
Plain
Active
Ingredient:
Mineral Oil 65%
DIRECTIONS—Adults: One table
spoonful. Children: One teaspoonful.
Important—Do not take directly
before or after a meal.
May be thinned with water, milk or
fruit juice if desired.
SHAKE WELL
WYETH INCORPORATED
PHILADELPHIA, PA
C-DF
1351380
Made in U. S. A.
Wyeth
PHILADELPHIA 3, PA.
ACCEPTED
COUNCIL ON
PHARMACY
AND
CHEMISTRY

Virginia Medical Monthly

Vol. 75, No. 3
WHOLE No. 1149

RICHMOND, VA., MARCH, 1948

25 CENTS A COPY
$2.00 A YEAR

GUEST EDITORIAL

The Premature Infant—Baby or Foetus?

TAKING a birth weight of 2500 grams (5½ pounds) as the line of demarcation between a mature and a premature infant, the death rate of the latter is very high. Brennemann gives the average as being 44.12 per cent in a series covering a period from 1922 to 1940. This rate is inversely proportional to the fetal weight, ranging from 87.05 per cent when the weight is less than 1000 grams to 11.04 per cent when it falls between 2001 and 2500 grams.

Davison lists the following causes of prematurity: toxemia and nephritis 17 per cent; multiple pregnancies 16 per cent; hemorrhage 8 per cent; trauma 6 per cent; placenta previa 5 per cent; syphilis 4 per cent; puncture of membranes 3 per cent; infectious diseases 2 per cent; tuberculosis 2 per cent; hydramnion 1 per cent; and lists the following 36 per cent without subdivision: analgesics, anesthetics, oxytocics, pneumonia, pelvic and uterine deformities, maternal age over 40, breech presentations, overwork, undernourishment, weakness, heart disease and unknown.

Could this high death rate be influenced to a certain degree by the fact that we are prone to regard these subjects as babies rather than foeti? The skin is almost as thin as tissue paper; the subcutaneous adipose tissue is practically absent; the cartilage of the chest framework is like thin cardboard and the ribs are not much harder; the digestive juices are very weak or absent. The gastrocardiac sphincter is defective, often causing to regurgitation with not only loss of nourishment and fluids but also predisposing to insufflation. The muscles of deglutition function poorly and swallowing is often not accomplished.

With no intentional disrespect to the genus *homo sapiens,* let us think of the premature infant as being comparable to a tadpole rather than a young frog. If we wanted a tadpole to thrive or even survive we would treat it as a tadpole and not try to force it to assume the role of a frog until developmental factors made this practicable.

With this thought in mind, would it be feasible more nearly to simulate intrauterine conditions for the premature infant? As there is practically no subcutaneous fat, the thermo-regulatory system of the body is defective. Drying of the skin by evaporation could be avoided by moist compresses or immersion of the trunk and extremities in a water bath with accurate thermo-regulation, rather than the incubator as is now in use. A little water or dilute breast milk could be given by mouth but most of the fluids and nourishment with necessary vitamins and chemicals might be given either intravenously using such portals of entry as an arm vein, scalp or leg vein. Nourishment could also be given by sternal puncture, hypodermoclysis or intraperitoneally. Plasma blood or hydrolysates, possibly with dextrose solutions, might be used. As the respiratory muscles are too weak to provide proper ventilation, a respirator might be used such as a carefully adjusted iron lung. Any such treatment would probably have to be administered in centers established for this purpose and would no doubt be impractical for the general hospital.

These observations are not in any way to be considered a reflection on the obstetrician and the pediatrician, who are doing a splendid work; but rather as a challenge to the imagination of research workers to chart a course and work out a program leading to a reduction in the mortality rate of the premature infant.

K. D. GRAVES, M.D.

THE VIRGINIA HOSPITAL SURVEY AND CONSTRUCTION PROGRAM UNDER THE HILL-BURTON ACT

L. J. ROPER, M.D.
State Health Commissioner,
Richmond, Virginia.

Under provisions of the Hill-Burton Act, Virginia receives $2,209,800 annually for five years in grant-in-aid funds from the federal government for the construction of hospital facilities within the state. Federal funds are available to nonprofit associations or public agencies on a one dollar for two dollars matching basis. Participation in the construction and equipment of general, mental, tuberculosis, and chronic disease hospitals and public health centers is permitted. Construction may be a new building, an addition, or remodeling or alteration of an old facility.

The development of the Virginia Hospital Survey and Construction Program under the Hill-Burton Act was authorized by the General Assembly during the special session held in 1947. This legislation designated the State Department of Health as the official agency to administer the program and authorized the creation of the Division of Hospital Survey and Construction within the Department to handle the details of administration. In addition, the state law provided for the appointment of an Advisory Hospital Council to advise and counsel with the State Health Commissioner on problems pertaining to the hospital survey and construction program.

THE SURVEY PHASE

An extensive survey of the existent hospital facilities in Virginia was undertaken during the early months of 1947. This survey was made to determine the number of additional facilities needed in the various types of hospital categories to bring the state up to the standards prescribed in the Hill-Burton Act. According to these standards Virginia should have 4.5 general hospital beds, 5.0 mental beds, and 2.0 chronic disease hospital beds per 1000 population, and one public health center for each 30,000 population. The number of tuberculosis beds should equal 2½ times the average annual deaths from tuberculosis during 1940-1944.

Table A shows the number of beds needed in each type of hospital category, the number of existing acceptable beds and the number of beds programed for construction as determined by the survey.

TABLE A

Type of Hospital	Number of Needed Beds	Number of Acceptable Beds	Number Beds to be constructed
General	12745	6870	5875
Mental	14050	3848	10202
Tuberculosis	3787	920	2817
Chronic	5620	——*	5620

*There are no chronic disease hospitals operating in Virginia at the present time.

In developing a plan for the construction of general hospital facilities, hospital service areas were established throughout the state. These hospital service areas are of three types: base, intermediate, and rural. A base area contains 100,000 or more population and at least one general hospital of 200 or more beds. An intermediate area has 25,000 or more residents and one or more general hospitals of 100 or more beds. The rural areas contain all geographical territory of the state not included in base or intermediate areas.

In setting up the hospital service areas, economic trade areas were used as the basic determinants of the geographical area to be encompassed. Hospital experience and the results of the hospital survey indicate that the geographical territory covered by a general hospital facility is practically the same as the territory served by the economic and social agencies in the area. From the trade areas of Virginia 4 base, 15 intermediate, and 26 rural hospital service areas were established. Roughly, these areas may be grouped into six regions centering around Norfolk, Richmond, Northern Virginia, Charlottesville, Roanoke and Danville.

The Virginia Hospital Plan has been approved by the Advisory Hospital Council and by the United States Public Health Service on December 26, 1947. Applications for participation in the program are now being received from the local communities.

The Construction Phase

To be eligible for participation in the grant-in-aid program, a project applicant, in addition to being a non-profit association or public agency, must be eligible for assistance under the priority system established in the State Plan. The construction, for which application for assistance is made, must be programed within the State Plan. The project applicant also must meet various financial requirements and certain construction regulations.

One of the fundamental concepts of the Hill-Burton program is providing assistance to those areas having the greatest need for hospital facilities. This is necessary since the monies available through federal aid together with the local matching funds will build only a portion of the needed facilities. To give the areas in Virginia having greatest need for hospital facilities first chance at federal aid a system of priorities for general hospitals was developed through a statistical combination of two criteria: (1) per cent of unmet hospital needs; and (2) per cent of occupancy of existing facilities. Generally speaking, an area with a high per cent of unmet needs and a high per cent of occupancy received a high priority. An area with a low per cent of unmet needs and low per cent of occupancy was given a low priority.

For purposes of classification, four priority groups were established: A, B, C, and D. Table B shows the priority identification of the general hospital service areas. The name of the area is that of the hospital center of the area and does not contain the names of all localities in the hospital service area in which general hospital facilities are programed for construction in the State Plan.

Table B
Priority Classification

A	B	C	D
South Hill	Farmville	Staunton	Norton
Suffolk	Pearisburg	Winchester	Martinsville
Culpeper	Alexandria	Norfolk	Lynchburg
South Boston	Abingdon	Leesburg	Pulaski
West Point	Fredericksburg	Williamsburg	Wytheville
Lexington	Roanoke	Harrisonburg	Marion
Rocky Mount	Danville	Charlottesville	Clifton Forge
Petersburg	Nassawadox	Franklin	Newport News
Warsaw	Lebanon		Galax
	Richmond		
	Radford		
	Richlands		
	Woodstock		

In addition, six areas were placed in an "Unassigned" category pending further study and investigation of the hospital situation in those areas.

The priority system gives certain hospital service areas first chance at the grant-in-aid funds. It does not mean, however, that unless used by the high priority areas, the aid funds will be returned to the federal government. All beds programed for construction in Virginia are needed. If those areas of greatest need do not apply for funds then those with the next highest priorities will be eligible for assistance.

In administering the hospital survey and construction program, the State Department of Health assumes certain definite responsibilities. It must certify to the Surgeon General of the Public Health Service that all requirements have been met. This will involve frequent and periodic inspection of each project in cooperation with the local sponsors. The Health Department will also consult and advise with the local areas concerning the various problems which may arise. Experience has indicated that these problems will range from those of organizing an area to build a hospital to final review of plans and specifications for the building. Emphasis will be equally divided between consultation and advice, and inspection and certification. To keep the State Plan current, periodic revisions will have to be made by the Department.

All facilities built with Hill-Burton grant-in-aid funds must be subject to rules and regulations as determined by the state. In Virginia, all hospitals are now licensed under an act of the General Assembly. Hill-Burton construction will be subject only to the licensing regulations imposed on all hospitals. No control will be exercised over the administration of the hospital or its medical staff.

Basically, the Hill-Burton program is a hospital planning program. As developed in Virginia the Hospital Plan has considered the hospital needs of the population of the Commonwealth during the next 15-20 years. Assistance in the form of federal grants-in-aid combined with local funds will build only part of the hospital facilities needed during this period. With wise planning, however, much can be accomplished to provide better hospital facilities in areas where they will be most needed. The Department of Health recognizes the great responsibility placed upon it as administrator of the program. It stands ready to help local areas in every way possible to provide better hospital facilities for their residents.

THE SELECTION OF CASES AND THE SURGICAL TREATMENT OF HYPERTENSION*

C. C. COLEMAN, M.D.,
J. M. MEREDITH, M. D.,
AND
C. E. TROLAND, M.D.,
Richmond, Virginia.

1. *Historical:* In a recent review by Voris[1], the development of sympathectomy for relief of hypertension is well summarized. It began in 1930 when Adson did a bilateral anterior rhizotomy of the 6th thoracic to the 2nd lumbar roots, inclusive; later he employed lumbar sympathectomy and celiac ganglectomy, with partial resection of both adrenal glands, by an infradiaphragmatic approach. Craig first performed a subdiaphragmatic splanchnicectomy in 1932. Peet, in 1933, began his series of over 1500 cases of bilateral splanchnicectomy and lower dorsal sympathectomy in a one-stage procedure through a supradiaphragmatic approach. Crile advocated celiac ganglionectomy. Smithwick, in 1939, developed the procedure now in use in most clinics: bilateral dorsolumbar sympathectomy and splanchnicectomy with the removal of the 11th and 12th ribs, permitting palpation and biopsy of the kidney, inspection and palpation of the adrenal (question of tumor), and removal of the sympathetic chain bilaterally from below T_8 to below L_2, and the splanchnic nerves and all or part of the celiac plexus, performed in two stages. This is now the procedure of choice in our clinic. It is essentially an ingenious combination of the procedures first employed by Adson and by Peet and is, therefore, both supra and infra-diaphragmatic in approach. Finally, Grimson, believing that the value of sympathectomy is directly related to the extensiveness of the procedure, operates transpleurally through the 3rd and 10th ribs, which permits the resection of the entire thoracic sympathetic chain and at times the upper two lumbar ganglia; this is, by far, the most complete of all, being even total sympathectomy in some cases. Smithwick's procedure has lately been modified in some clinics by removing the 7th or 8th rib and the 11th rib, instead of the 11th and 12th, thus permitting retropleural removal of the thoracic chain up to T_3 ganglion.

*From the Department of Neurological Surgery, Medical College of Virginia, Richmond, Virginia.

2. *Etiology and Diagnosis:* The widest difference of opinion still prevails as to the etiology of hypertension. Doubtless there are diverse factors in different individuals. White and Smithwick[2] list five causes: renal, cerebral, cardiovascular, endocrine, and unknown. Certainly, conversely, the mechanism by which the blood pressure is lowered in man by sympathectomy is not completely understood. Occasionally, unilateral renal disease may be the cause of hypertension; removal of the diseased kidney may cure the hypertension in such cases. A medullary or cortical adrenal tumor can cause hypertension; its removal is also followed by cure of the hypertension without operation on the sympathetic nervous system. Usually a tumor of the adrenal medulla causes a typical "spiking" type of hypertension, similar in appearance—when charted daily—to a septic temperature chart, although sustained "plateau" hypertension due to adrenal tumor is possible, as in the interesting case reported by Smithwick. Both cortical and medullary adrenal tumors are associated with hypertension and the adrenal should be carefully palpated on each side at the time of operation; all "failures" post-operatively should be thoroughly restudied for the possibility of a previously undetected adrenal tumor.

Coarctation of the aorta is another lesion which can cause hypertension and often requires operation by the thoracic surgeon. This usually occurs in young adult or adolescent *males* and, in such patients, the blood pressure should always be taken in both arms and thighs during the pre-operative study of the patient. The chest film frequently, but not always, shows a striking notching (absent in children) of the under-surface of the ribs bilaterally, as in one of our recent cases (Figure 1). We have seen three such patients in the last three months, all in adult males (aged 21 to 37). Two had rather marked under-development of the legs and, in a certain light, pulsation of the superficial upper trunk

vessels—which are always dilated—can be seen. In one of our patients, a white man of 21, the blood pressure was 210/140 and no pulsation could be felt in the femoral or dorsalis pedis arteries. In the second case, a white man of 26, the blood pressure was 230/110 and he had had known hypertension for seven years. In the third case (aged 37), hypertension had been present for ten years. The blood pressure was 200/110. Oscillometric readings of the legs were much reduced compared to the arms.

Figure 1: Chest film in patient with coarctation of aorta. The under surface of several ribs, especially on the right side, show characteristic notching (arrows) due to enlargement of the intercostal arteries.

In a recent symposium on coarctation of the aorta (5 papers) in which the diagnostic, experimental surgical and surgical data are presented by staff members of the Mayo Clinic, Hines and Christenson[3] summarize the diagnostic syndrome: suspect this condition in all cases of hypertension and always palpate the abdominal aorta and femoral arteries. If these palpations are not entirely normal, look for other evidences of coarctation of the aorta, such as signs of collateral arterial circulation, systolic cardiac mumurs, thrills and bruits over the upper part of the back, and X-ray evidence (chest) of coarctation. Even so, some cases have normal blood pressure in the upper extremities and good pulsations in the femoral arteries. It is also suggested that angiocardiography (contrast medium not named) be used to demonstrate the exact location and degree of coarctation. In some cases, the constricted segment of the aorta can be seen in the left anterior oblique X-ray view of the chest. Clagett reports in some detail the first surgical case operated on at the Mayo Clinic (August 6, 1946), after extensive surgery on dogs, with a quite satisfactory result. This was in a 34-year-old white man with a blood pressure of 230/140 in the right arm and unobtainable in the legs. The coarctation was ligated in situ and the left subclavian artery was also ligated and divided; then he rotated the proximal end of the subclavian to the distal end of the aorta, carrying out an end-to-end anastomosis. It was the first time that the left subclavian had been sucessfully utilized in man for operative repair of coarctation. Thirty-one days after operation, the patient was discharged with a blood pressure of 154/82 in the right arm and normal pulsations in the posterior tibial arteries. Blackford's statistics of 323 cases of coarctation are quoted to show conclusively that most of these patients die at a relatively early age if not operated upon. It is conceivable that in the lesser degrees of aortic coarctation, the Smithwick operation might still be the surgeon's first choice, as dilatation of the vessels in the visceral bed and legs always results following sympathectomy, and it is certainly a much less hazardous procedure than resection of the constricted portion of the aorta and end-to-end suture of the widened aorta or to the subclavian. If the Smithwick operation fails to reduce the blood pressure in such cases and to eliminate disabling symptoms and signs accompanying it, then the aortic operation would appear warranted.

Vascular hypertension and brain tumor are rarely associated. When a brain tumor occurs in a patient with hypertension, the latter is probably entirely coincidental. The average patient with brain tumor, provided an acute ventricular block is not present, usually has a normal blood pressure and is frequently a mild hypotensive. This is especially true of patients with pituitary tumor. However, it cannot be denied that an occasional patient in the early malignant phase of hypertension rather closely simulates a patient with a cerebral tumor: headache, choked disc, diplopia, possibly hemiparesis, convulsions, or aphasia, high spinal fluid pressure, etc.—

so that the only method of clearly distinguishing one from the other is by ventriculography. Such occurrences are admittedly rare but their possibility has been emphasized by Dandy, who reported two cases of operable dural endotheliomas in patients with hypertension, in which, at first, operation was not done, as the blood pressure in each case was 250 mm. systolic and all the symptoms were thought to be due to hypertension. Dandy[4] stated that vascular hypertension is another source of increased intracranial pressure and of incorrect diagnosis (in detecting brain tumors). Papilledema is frequently associated with it and may be indistinguishable by expert ophthalmoscopic examination from choked disc due to tumor. The papilledema is usually bilateral and essentially equal on both sides. There may or may not be neurologic localizing signs and symptoms in addition to those of increased intracranial pressure. A high blood pressure (175 mm. systolic and above) always places the burden of proof upon a diagnosis of tumor, but it is by no means an absolute criterion. If the patient has a beginning or frank malignant hypertension, except for evidence of renal damage (urinalysis, Mosenthal test, intravenous pyelogram and nonprotein nitrogen being practically normal), then particularly, the surgeon should seriously consider a possible brain tumor or adrenal tumor in the preliminary examination of the patient and more emphasis than usual should be placed in eliminating these conditions pre-operatively.

Goldblatt's experiments (1932) produced hypertension by renal ischemia, but hypertension has been produced in animals by a number of methods which do not involve mechanical constriction of renal arteries or parenchyma. Acute vascular hypertension may be produced by injecting fluid under pressure into the cisterna magna, probably related to anemia of the autonomic centers. Acute anemia of the cerebral circulation will provoke intense vascular hypertension in the dog (White and Smithwick). Undoubtedly, in the female, pregnancy is an etiological factor, either with or without toxemia, as often such patients definitely date the onset of hypertension during a pregnancy. In the negro, primary renal disease (glomerulonephritis) appears to be a factor in many patients. Negroes seem to develop essential hypertension amenable to sympathectomy much less often than the white race; frequently they have so severe renal disease, or apparently a "fixed" type of hypertension, that operation is scarcely indicated or warranted.

According to Castleman and Smithwick[5], almost all hypertensive patients show some degree of renal arteriosclerosis. They reported 100 cases of renal biopsy obtained in hypertensive patients during sympathectomy whose average blood pressure was 210/130 and whose average duration of hypertension at the time of operation was six years. They concluded that in over 50% renal vascular disease was inadequate as an explanation of the hypertension; they believed that in many patients the hypertension antedated the renal vascular lesion. These observations are not in keeping with the concept that renal ischemia (Goldblatt) due to pre-existing renal vascular disease is the usual cause of essential hypertension in man. These writers found eight adrenal tumors (in seven cases) in their 100 patients (six cortical and two medullary).

Goldblatt[6] found that when the main artery of only one kidney was constricted in dogs, hypertension developed. This method was devised to simulate arteriosclerosis and reduction of the blood supply to the kidney in man, as it is very difficult, if not impossible, to produce arteriosclerosis itself in the experimental animal. The elevated blood pressure returned to normal in six weeks or less in most dogs after these experiments. In rats, goats and sheep, the blood pressure remained elevated for many months, when only one main artery was constricted. Goldblatt[6] used a silver clamp permanently to constrict the main renal artery to any degree desired. Extensive sympathectomy in the Goldblatt dog will not reduce the hypertension.

3. *Selection of Cases:* The methods of selecting the individual patient for operation vary widely in different clinics. Most clinics prefer to confine the procedure to cases under 55 years of age, to those patients whose systolic blood pressure has reached 200 or more on at least one or two occasions, and who have adequate renal and cardiac function, together with a demonstration of a rather labile blood pressure in response to the amytal test (see below). There are "pre-hypertensive" individuals, however, who probably should be operated on; such cases have beginning elevation of blood pressure (150 to 160 systolic), with a family history containing two or more individuals who have died at a relatively early age of hypertension, with or without apoplexy. Such a patient's response to the "cold pressor test"

(see below) shows him to be, in all probability, a likely candidate for a "full-blown" hypertension in a few years. deTakats[7] *et al* recently stated that all patients with a persistent pressure in excess of 140/90, taken during daytime activity and not at rest, who are between the ages of 18 and 25, should be considered candidates for the operation. We feel that this method of selection is too radical. On the other hand, Isberg and Peet[8] have stated that any hypertensive patient under 60 years, who is not in congestive failure, whose nonprotein nitrogen is less than 40 mg. per cent, and who has had no major cerebral accident during the previous month, may be considered a reasonable operative risk. This we believe to be somewhat too inclusive. The ideal cases are somewhere between these two statements. In the last analysis, then, there are scarcely any absolute universally-used criteria to be utilized in deciding for or against operation in the patient under 60 years of age who is not in congestive failure: it depends, to a considerable degree, on the current views of the individual surgeon which, in themselves, vary from year to year as new impressions are gained and experience becomes greater.

In the last two or three years, greater attention is paid in some clinics to the diastolic pressure than heretofore: if there is no significant reduction in this reading after operation (preferably below 100), the result is not satisfactory, regardless of the post-operative drop in systolic pressure. Smithwick[9], in following 156 patients from one to five years post-operatively, judged his results largely by the degree of reduction of the diastolic pressure. He found that the magnitude of renal disease before operation did not affect the post-operative prognosis *per se*. The renal arteriole status, as shown by renal biopsy, was not significant as regards prognosis. He believes that the wider the pulse pressure before operation, the poorer the post-operative result is liable to be. The effect of operation is due largely to decreased peripheral resistance to blood flow. Smooth muscle tone is decreased and peripheral resistance to blood flow is thereby lessened.

The following tests are now carried out in our clinic in the pre-operative examination of patients. The data is then reviewed and a decision reached for or against operation. An effort is made to complete these studies in three days:

1st Day: The blood pressure is taken in all four extremities on admission and the dorsalis pedis and posterior tibial arteries palpated. Urinalysis, blood count and Wassermann; nonprotein nitrogen and blood sugar. Electrocardiogram: if the T wave is inverted in Lead I, a poor myocardium is indicated. Previous coronary thrombosis may also be determined. Seven-foot plate of the chest and determination of the cardiothoracic ratio. If the heart is over 52% of the diameter of the chest, enlargement is present.

1st Night: Sodium amytal test: nothing by mouth from 6:00 P.M. to 9:00 A.M. Sodium amytal gr. iii: 9:00 P.M., 10:00 P.M. and 12:00 midnight. Blood pressure taken every hour during test. If not sound asleep by 12:00 midnight or 1.00 A.M., repeat amytal (gr. iii) and even a fifth time at 2:00 or 3:00 A.M., so that at least two or three readings are obtained *while the patient is sound asleep*, not waking up during the blood pressure reading. A very satisfactory response consists of a drop in systolic pressure of 100 mm. during the night and a diastolic reading below 100 mm. This test may be repeated in two or three days if not satisfactory the first time. Spinal anesthesia may be utilized if no satisfactory drop is obtained with the amytal test. If the blood pressure falls below 140/100 in the amytal test, there is at least a fifty-fifty chance that a satisfactory result will be obtained by operation. Recently, Southworth and Russek[10] have used caudal extradural block analgesia (using 70 cc. of 1% metycaine—obtaining a sensory level to T_{4-6} dermatomes) as a substitute for the amytal test. We have recently used this test with satisfactory results.

2nd Day: Mosenthal test: Directly following the last A.M. blood pressure determination in the amytal test, three hourly urine specimens are obtained. Having been voided after an absolute fast of fifteen hours or more, the specific gravity should, in favorable cases, be 1.020 or more; the patient is then given three to four glasses of water to drink in a few minutes and the specific gravity one or two hours afterward should be below 1.010 (three specimens obtained). This is perhaps the best of all renal function tests, demonstrating the ability of the kidneys to concentrate and dilute the urine promptly. The cold pressor test may then be done in the pre-hypertensive individuals (see above) but is probably dangerous in patients with blood pressure over 200 systolic and unnecessary as well. A hand is immersed in ice water up to the forearm and kept in this position for one minute after sev-

eral basal blood pressure readings have been made. The blood pressure is taken in the other arm during and after the immersion of the other hand, until a basal (level) blood pressure is again obtained. Hyporeactors (normal) are those in whom the rise is less than 20 mm. Hg. systolic. Hyperreactors are those in whom the rise is more than 20 mm. Hg. systolic and frank or potential hypertensives are those in whom the systolic rise is much greater—50 mm. Hg. or more.

3rd Day: An intravenous pyelogram is done to detect any unilateral kidney disease or adrenal tumor and generally to estimate renal function. Perirenal air insufflation may demonstrate adrenal tumors but is not without risk from air emboli. There is a great need for further perfection of simple hormonal studies of the blood and (or) urine to demonstrate the probability of adrenal tumor in patients with hypertension. If marked ptosis of one or both kidneys is present, nephropexy may be done by the urologist at the time of the sympathectomy. When the pyelogram films are made, a lead marker may be placed at the right 12th rib and left *in situ* after the last film is taken to orient the operator when the incision is planned at operation. A phenolsulfonphthalein test may be done later in the day.

Internist's opinion. Review and repetition of any tests necessary. Examination of fundi. Marked retinal hemorrhage, choked disc and exudates do not in themselves contraindicate operation. The patient is matched for transfusion, especially before the second-stage operation.

Between the two operative stages, a blood count, urinalysis, nonprotein nitrogen and chest X-ray examination are obtained. The second stage is performed from five to seven days after the first, provided the pleura has not been opened, when the intervening period is lengthened to ten to fourteen days. All cases reported in this series have had the bilateral operation, except one (Case 24—Table I), a 36-year-old woman in whom the first (right-sided) operation has sufficed to keep the blood pressure at a very satisfactory level.

A previous cerebral hemorrhage is no contraindication to operation, if the patient's condition at the time of examination is otherwise reasonably good. Congestive failure is an absolute contraindication to operation, although certain of the so-called "malignant" hypertension cases do remarkably well after operation. Peet[11] has recently reported the case of a woman, aged 22, with severe neuroretinitis and a blood pressure of 280/190; after his bilateral operation had been performed, the blood pressure fell to 144/110 three years later; in the first two months the fundi returned to normal. Twelve years post-operatively, the blood pressure was 128/90.

Hypertension with severe angina pectoris is no contraindication, as demonstrated also by Peet in a case of his reported in the same paper: a 40-year-old woman with a blood pressure of 230/150 before operation, and severe angina pectoris, having two to six attacks of pain a day. Five years after operation the blood pressure was 164/114 and she had had complete relief from the anginal attacks since operation.

Early pregnancy and hypertension is no absolute contraindication, although the patient should be warned that abortion may result post-operatively. If it is the first pregnancy in a female near the menopause, splanchnicectomy might properly be tried; if the parents already have several children and the pregnancy appears to be the cause of the hypertension, therapeutic abortion may be the wiser procedure, to be followed by sympathectomy if the blood pressure is not appreciably reduced after the abortion. Pregnancy is possible after bilateral sympathectomy for hypertension, as demonstrated by Case 30 (Table I), the patient (aged 31) maintaining a normal blood pressure throughout the pregnancy and puerperium.

Page and Corcoran[12] state that the average level of the pre-operative blood pressure is not a good index of the result to be expected from operation. When the diastolic pressure is excessively high, a less favorable result may be expected; i.e., the operation is less effective, the greater the severity of the disease. The more labile the blood pressure, the better the result. Smithwick uses the pulse pressure as an index, believing it is more valuable than the average arterial pressure. He studied 156 patients post-operatively with reference to the resting horizontal lowering of diastolic pressure after operation. He found that in those with narrow pulse pressure (less than half the diastolic pressure) before operation, the best results were obtained.

It may happen that patients with many disabling symptoms, especially headaches, precordial pain, feeling of tension, irritability and anorexia, are strikingly benefitted post-operatively, even though the systolic blood pressure is not materially lowered

TABLE I

*S—Smithwick operation
*P—Peet operation

	Sex	Age	Operations 1st Stage	Operations 2nd Stage	Blood Pressure Before 1st Stage	Blood Pressure After 2nd Stage (Hosp. Discharge)	Follow-Up Blood Pressure; Time Interval After 2nd Stage; Working Capacity
(1)	M	38	*S	S	230/150	130/90	140/90; 13 mos.; no complaints, works full time.
(2)	F	46	*P	S	220/120	140/100	160/105; 3 mos.; part-time work.
(3)	F	18	S	S	210/120	112/82	130/78; 2½ yrs.; full-time work.
(4)	F	39	S	S	200/130	110/70	135/105; 11 mos.; part-time work.
(5)	F	41	S	S	210/140	120/80	142/106; 2⅔ yrs.; full-time work.
(6)	F	44	S	S	215/125	122/70	150 (S); 10 mos.; part-time work.
(7)	M	47	P	S	240/120	160/120	200/130; 16 mos.; part-time work.
(8)	F	52	S	S	230/120	170/95	145/95; 37 mos.; full-time work.
(9)	M	44	S	S	210/150	175/130	200/140; 1⅓ yrs.; part-time work.
(10)	F	48	S	S	190/128	122/90	168/120; 3 yrs.; full-time work.
(11)	F	33	S	S	220/120	110/65	110/80; 11 mos.; full-time work.
(12)	M	49	S	S	200/130	140/100	135/100; 6 mos.; part-time work.
(13)	F	47	S	S	206/108	90/60	110/75; 16 mos.; full-time work.
(14)	F	29	S	S	190/130	90/50	136/96; 3⅓ yrs.; part-time work.
(15)	M	36	S	P	210/145	140/95	160/130; 2 yrs.; full-time work.
(16)	M	47	P	S	200/130	136/90	155/105; 1½ yrs.; part-time work.
(17)	M	42	S	S	240/160	120/88	Died 2 yrs. after 2nd stage operation, of congestive failure and nephrosclerosis.
(18)	F	22	S	S	225/140	110/80	Repeated inquiries unanswered.
(19)	M	30	S	S	205/140	135/80	190/?; 18 mos.; part-time work.
(20)	F	36	S	S	200/114	120/80	150/90; 22 mos.; full-time work.
(21)	M	51	S	S	240/145	130/85	240/180; 3⅔ yrs.; can't work.
(22)	M	58	S	S	210/120	122/65	250/120; 3⅓ yrs.; full-time work.
(23)	F	49	S	S	185/100	80/60	178/100; 2-5/6 yrs.; full-time work.
(24)	F	36	S	O	190/120	No 2nd oper.	108/88; 3 mos.; full-time work, (1st stage only)
(25)	M	39	P	S	220/150	130/105	160/100; 3 yrs.; full-time work.
(26)	F	37	S	S	220/130	120/80	128/88; 17 mos.; full-time work.
(27)	F	45	S	S	230/120	140/90	150/110; 2 mos.; part-time work.
(28)	M	37	S	S	230/190	182/126	No reply to repeated inquiries.
(29)	F	36	S	S	190/110	190/128	245/140; 6 mos.; GU infection and psychotic; part-time work.
(30)	F	31	S	S	190/150	142/122	130/90; 27 mos.; normal pregnancy; works full time.
(31)	M	39	S	S	230/140	130/85	135/105; 1½ yrs.; full-time work.
(32)	F	54	S	S	255/130	170/110	145/95; 7 mos.; full-time work.
(33)	F	37	S	S	225/145	165/105	184/118; 4 mos.; part-time work.

by the operation, thus enabling them to resume full-time work as wage earners.

Occasionally, the thin or average-weight individual, who is pale and anemic in appearance, has a more severe hypertension than the ruddy-faced, obese patient. Renal clearance tests are of little value in the preoperative study of the patient. Talbott[13] *et al.* reported in 1943 on a correlated study of renal biopsies and renal clearance tests. They concluded that Smithwick's operation had little effect on renal clearance. Although glomerular filtration was reduced in the immediate post-operative period about 20%, within a year it returned to its pre-operative level. Renal plasma flow was essentially unchanged by the operation.

4. *Operative Technique:* As stated above, we prefer the Smithwick technique in all cases. As will be noted from the tabulation of the 33 cases reported in this paper, five of the early cases had a Smithwick operation on one side and a Peet operation on the other, but for the last two years, the bilateral Smithwick operation has been used exclusively.

An intratracheal tube is inserted. This produces a very smooth and quiet anesthesia (ether vapor) and gives the added protection that if the pleura

is opened, by the use of positive pressure, no untoward effect results. If the pleural cavity is inadvertently entered, it is immediately more widely opened so that one's hand can easily be inserted within the pleura, to avoid the development of a post-operative tension pneumothorax. Ideally, the pleura should not be opened at any time, but we have seen no serious complications if it does happen and, of course, many modern thoracic operations today are done through a widely opened pleura as a procedure of choice, without ill effects.

For the first-stage operation (right side), the patient is placed on his left side with the right leg extended, leaning slightly away from the operator. A curved hockey stick incision is made, the vertical limb of the incision being about 5 cm. lateral to the spinous processes (Figure 2). The 11th and 12th ribs are removed after the longissimus dorsi muscle has been reflected off the ribs. The pleura is then gently dissected off the bodies of the vertebrae and the thoracic chain and the greater splanchnic

Figure 2: Post-operative photograph of a patient who has had the bilateral Smithwick operation; the lateral (lower) limb of the incision has been shortened in more recent cases.

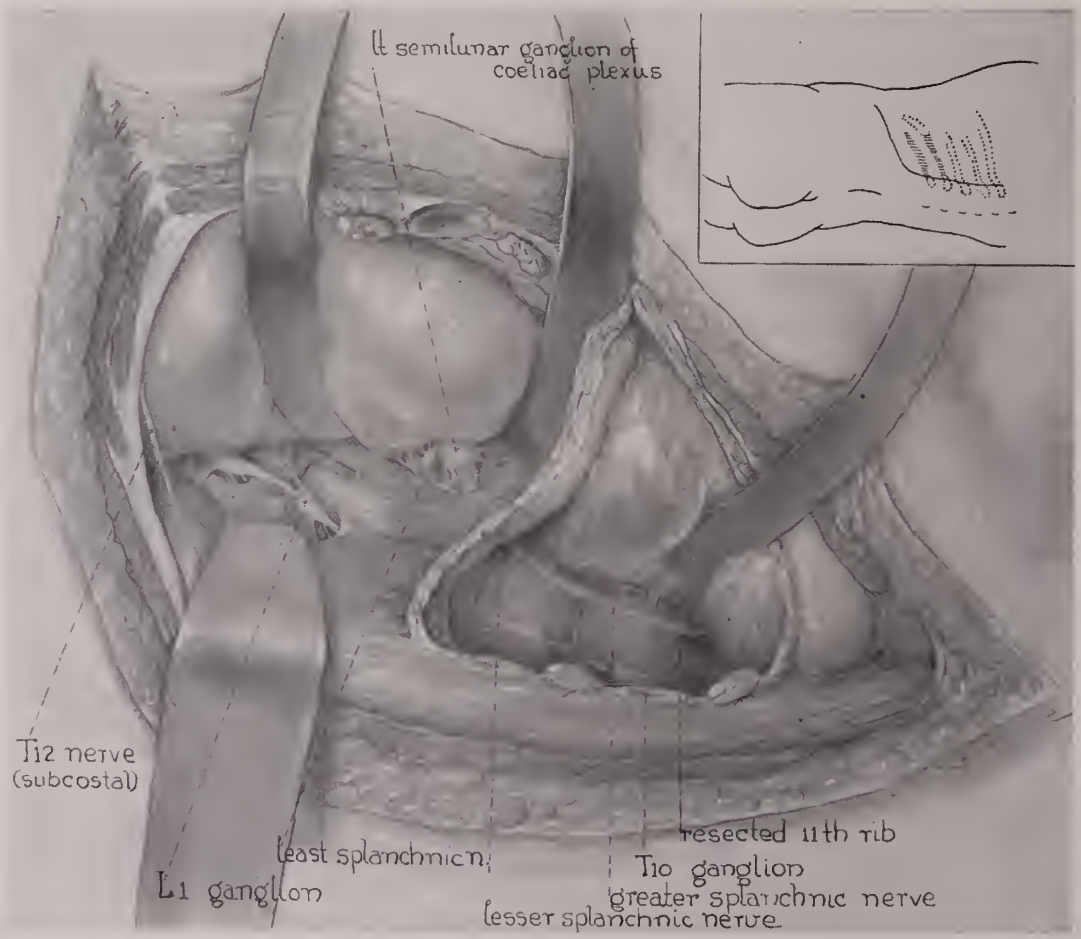


Figure 3: Artist's drawing made at time of operation. The thoraco-lumbar sympathetic chain and the greater and lesser splanchnic nerves and the semilunar ganglion are shown in situ before removal. The 12th thoracic ganglion is almost completely hidden by the diaphragm.

nerve identified (Figure 3). The thoracic chain is severed between T_8 and T_9 ganglia, its rami divided between silver clips or after coagulation. The lesser splanchnic nerve can be seen originating from T_{10} and T_{11} ganglia. The thoracic chain is then mobilized down to T_{12} ganglion (usually beneath and covered by the diaphragm). Every effort must be made especially to remove T_{12} ganglion and all its rami, the most difficult one to visualize. The greater splanchnic nerve is dissected free of the pleura and by traction upward the celiac (semilunar) ganglion is seen and is partly or totally removed with the greater splanchnic nerve. The kidney is then exposed by incising the renal capsule up to the diaphragm. The diaphragm may be divided close to its attachment if desired, to afford better exposure of the lumbar and lower dorsal (T_{12}) chain. We have never seen any complications from incising the diaphragm bilaterally. The lumbar chain may be found separately under the psoas muscle at about L_1 ganglion level or identified by placing a Kelly hemostat on the lower dorsal chain above the diaphragm and gently passing it beneath the diaphragm, thus putting the upper lumbar chain "on the stretch", from which it can be carried down further beneath the psoas with a nerve hook. The lumbar chain to below L_2 ganglion is removed (Figure 4); often the entire thoracic and lumbar chain may be removed in one portion by passing the dorsal chain beneath the diaphragm. Very little bleeding results, as a rule, during the entire operation. Before the lumbar chain is identified, the kidney is palpated, and the adrenal gland as well, to rule out tumor (5% of Smithwick's cases had adrenal

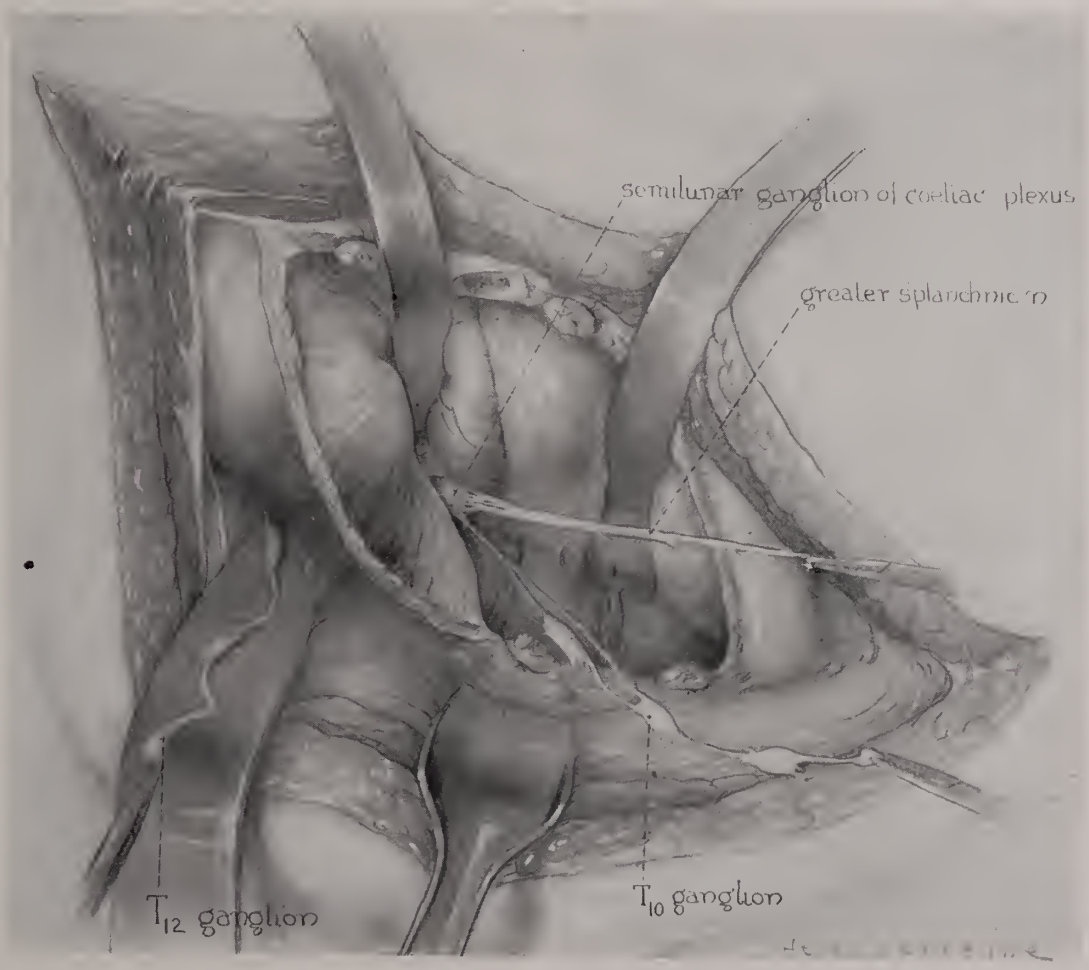


Figure 4: Artist's drawing made at time of operation (later stage). The sympathetic chain and the greater splanchnic nerve are mobilized by severing the rami and are ready for removal. The chain, from below T_8 to below L_2 ganglia, is completely removed, together with the greater, lesser and least splanchnic nerves and part or all of the semilunar ganglion.

tumor). We no longer take a biopsy of the kidney as we did in a few of the early cases. In the interval between the two operations, there may be little or no appreciable drop in systolic or diastolic blood pressure after the anesthesia effect has receded. In only one patient (Case 24, Table I) has there been a satisfactory prolonged reduction in the blood pressure with freedom from disabling symptoms after the first (right) side only was operated upon (Smithwick operation). The second operation (left side) has not as yet been required (eighteen months after the first stage was performed).

In the second-stage operation, a blood transfusion is begun, routinely, as the sympathetic ganglia are being removed, as there is typically a sharp drop in systolic pressure by the end of the second stage from extreme vasodilation of the splanchnic bed. If the pleura has been opened, two large (#18F) catheters are inserted in the wound at the time of closure, one inside the pleura and one in the retropleural gutter. These are aspirated as the anesthetist applies positive pressure to the lungs, so that, when the catheters are withdrawn and the last skin suture tied, the lungs are fully expanded and no respiratory difficulty should occur post-operatively. Immediately post-operatively, the homolateral leg and lower trunk are warm and completely dry and the superficial peripheral vessels greatly dilated.

5. *Immediate and Late Post-Operative Period:* The patient, on return to his bed, is placed on the unoperated side or his back for the first forty-eight hours. CO_2 inhalations (10% CO_2; 90% O_2) are given every hour until the patient reacts from the anesthetic; thereafter, every two hours for forty-eight hours. If the blood pressure (after the second stage) is below 90 systolic, the foot of the bed is elevated and neosynephrin (mx. iii) is given hypodermically every hour until the blood pressure is above 90 systolic. The sutures are removed on the fifth post-operative day and the patient is ambulatory a day or two later, if not before. It is well to wrap the legs firmly in four elastic bandages and to apply an abdominal binder when the patient first gets out of bed after the second stage. The systolic pressure may be O, in which event the patient will faint. Smithwick[14] states that if postural hypotension (to the degree of actual syncope in many cases) is not present immediately on getting out of bed and standing erect after the second stage, important sympathetic pathways have probably been overlooked at operation; its (postural hypotension) magnitude and duration (up to one year post-operatively) is related primarily to the extent of the operation in the lumbar region.

For the first three to four days, a close watch is kept on the patient, often with an internist's expert aid, for atelectasis, tension pneumothorax, mediastinal shift, excessive bronchial secretions (which may rarely require emergency bronchoscopic aspiration) and cardiovascular complications: coronary or cerebral thrombosis. We have seen all of these complications on one or more occasions, fortunately without fatality, except in one patient, not reported in this series, who died a few days after the first-stage operation due to acute coronary occlusion when he turned in bed several days after operation. On reflection, it is rather remarkable that this complication, or a massive cerebral thrombosis, does not occur more often, especially in the older (45-55) patients, after the second-stage operation when the blood pressure usually drops far below 100 systolic (when he first stands erect), in a patient who may have been carrying a blood pressure of over 200 systolic for years. Patients with hypertension, as a group, are probably the most nervous, "high-strung" and, at times, impatient individuals with whom one has to deal and more or less constant sedation with phenobarbital is often required, both before and after operation.

An annoying hyperesthesia develops in the occasional patient in the flank and lower abdominal wall of the more recently operated side, apparently from irritation of the 11th or 12th intercostal nerves, incident to operation. This is best relieved by Imadyl (histamine) ointment applications and mild sedation; occasionally a course of snake venom affords relief. This hyperesthesia may actually keep the blood pressure elevated post-operatively and not until the patient returns home and the hyperalgesia subsides, does the blood pressure also approach normal. Distention of the abdominal wall and hyperperistalsis of the bowel is complained of by a few of the patients. No bladder complaints have developed. In the male, removal of both L_1 ganglia may result in sterility from loss of ejaculatory power, although potency is retained. The male patients are always forewarned of this possibility (it does not invariably occur) and may elect not to have the operation done or consent only to the bilateral (or unilateral) Peet operation, realizing that the result,

so far as the reduction in blood pressure is concerned, may not be satisfactory for that reason (incomplete operation).

In the 33 consecutive cases (begun in 1943) reported in this paper, there have been no operative or post-operative deaths. Only one patient, to our knowledge, has died since discharge from the hospital (Case 17, Table I), a 42-year-old man, who was readmitted on the Medical Service two years after operation and died of congestive heart failure and nephrosclerosis. Smithwick's[14] operative mortality in a larger series of cases was 2.2%.

6. *The Interpretation of Any Surgical Results on a Statistical Basis,* particularly in a group of patients with hypertension, is difficult, if not impossible, from a comparative standpoint, i.e., comparing one clinic's results with another, as the different clinics report their results often with widely different pre-operative criteria and satisfactory results are recorded for different reasons. As a general rule, the post-operative results in any single clinic will depend largely on the division of the patients into two types of cases: (a) those with a more or less "essential" type of hypertension in patients under 40, whose pre-operative tests may be classified as good or excellent; and (b) a second group, possibly larger than the first, of patients over 40, whose preliminary tests are not good or even, for the most part, are rather poor. The higher the percentage of cases from the second group that are operated on, the poorer will be the over-all results. Whether the second group is large or small in any individual clinic will depend almost entirely upon the boldness of the surgeon and how rigidly he selects his patients for operation and also upon the number of patients in mediocre condition, who have had their hypertension for rather long periods of time (over five years), and for whom operation is finally requested by the internist "as a last resort". The number of these latter rather unsatisfactory cases can and should be materially reduced in the future by early operation in every suitable case of hypertension, regardless of age, as the operative risk is slight, certainly scarcely, if at all, higher (in properly selected cases) than the operative risk in appendectomy. This discrepancy in results is evident from reading recent reports from the various clinics in the country that perform this operation. For example, one writer will be more interested in what per cent of his patients have significant lowering of the systolic blood pressure (below 160 systolic), which, at first glance, would appear to be the most important result. Another writer may stress the reduction in *diastolic* pressure and pay little attention to the fall, if any, in the systolic pressure in his group of cases. Still another may stress, not blood pressure readings, but the improvement in symptoms and ability to work in the patients when the statistics are recorded. Certain conclusions may be drawn as regards age and sex. All writers are in agreement that women do considerably better than men post-operatively and that patients under 40, as a group, do much better than those over 40. But statistical analyses can be carried almost to absurd details; to get really helpful criteria that would aid internists and surgeons alike in prognosis before operation, one would need a significantly large number of patients, so that one could predict with a fair degree of accuracy, what chance, for example, a man over 40 would have of obtaining a significant reduction of blood pressure and amelioration of symptoms, compared with a man under 40. Even this determination would be useless unless it were correlated with the duration and degree of hypertension he had, especially with respect to cardiovascular and renal function and response to the amytal test pre-operatively. One should also know, in compiling post-operative statistics, how many of the post-operative "failures", so far as reduction of pressure is concerned, show evidence of regeneration (pilocarpine test) or of immediate incomplete operation, or demonstrate the possibility of an overlooked adrenal tumor, which would be the cause of failure in certain cases, rather than poor pre-operative cardiovascular or renal function or age of the patient. Post-operatively, the fundal changes usually regress, the E.K.G. improves, the cardiac enlargement is diminished and kidney function is improved, together with the well being of the patient, even though there is little or no reduction in the systolic blood pressure.

It is by no means certain that the Smithwick or Grimson procedure is the best merely because it is the most extensive. For example, in our series of 33 cases (Table I), in four of the five cases that had the Smithwick procedure on one side and the Peet operation on the other side, a satisfactory reduction of blood pressure (160 systolic or less) re-

sulted, the patients being between 36 and 47 years of age. Such a satisfactory result is by no means true of a number of the younger patients who had the bilateral Smithwick procedure, but as the cases in both groups are not correlated with respect to their renal and cardiovascular status, pre-operative duration of their hypertension, and response to amytal tests preoperatively (in comparing the value of the Peet v. the Smithwick operation), such comparison in this series is of no value.

Page and Corcoran[12] in a recent (1946) critical review of hypertension and operations designed for its relief, state that the effects of operation do not appear to be primarily dependent on the state of the renal arterioles, as judged by renal biopsy, since there was no significant difference in the result in patients with mild or no renal arteriolar disease and those having somewhat more advanced changes; therefore, in all probability, the primary effect of radical sympathectomy is not on the renal vascular bed.

If the operation is performed early soon after the development of the hypertension, the results are distinctly better, even with malignant hypertension. Probably advances in the surgical treatment of the disease in the future will be in that direction more than any other, so soon as practitioners realize the very low operative mortality that prevails today. Peet and Isberg[8] noted that 19% of 112 patients with malignant hypertension were living five to eleven years post-operatively, a figure hardly obtainable with the medical treatment of this usually rapidly fatal illness.

Page and Corcoran[12] concluded that Adson and Craig (infradiaphragmatic operation only) obtained somewhat better results than Peet (supradiaphragmatic operation only), but even the former obtained only 13% of cases that could be classified as good, and 18% as fair with respect to reduction of blood pressure. Relief of symptoms is striking in a larger percentage of the patients. Page and Corcoran reported that in a "small per cent of cases", Peet obtained a definite and prolonged reduction of blood pressure.

Perhaps the best criterion of the effectiveness of the operation, after all, is the determination of how many patients are, post-operatively, able to work full or part-time, or assume their place in the community or home as useful workers. In this respect, our results are satisfactory (Table II), as it is seen that,

TABLE II

ANALYSIS OF 33 CONSECUTIVE UNSELECTED OPERATED CASES:

Total Number	*With Adequate Follow-Up*
Females 20	19
Males 13	12

(Oldest patient, 58-year-old man; youngest patient, 18-year-old girl—both with identical pressure of 210/120).

Post-operative hospital deaths after bilateral operation (33 patients, 65 operations): 0; 1 patient died following discharge two years after second stage, of congestive failure and nephrosclerosis.

	Systolic pressure of 160 or less in follow-up reports after 2nd stage	Systolic pressure of 150 or less in follow-up reports after 2nd stage	Systolic pressure of less than 150 in follow-up reports after 2nd stage
In the Follow-up:			
Of total number of cases reporting (31):	21 (68%)	17 (55%)	14 (45%)

Of the 31 patients reporting: 29 (93.5%) are engaged in part-time or full-time (17 cases) work post-operatively (one died 2 years after operation; and one is unable to work—a (now) 55-year-old man whose pressure was not reduced.)

All the 33 cases but one (whose blood pressure was 185/100) had resting systolic pressures of 190 or more before operation.

of the 31 patients reporting for examination or by letter, 93.5% are engaged in full-time (majority) or part-time work. This is probably a larger percentage than could be obtained by medical therapy alone, especially as a number of the patients operated upon were referred by competent internists after medical treatment had not improved the patient and they were unable to work at all before operation.

7. *Summary:* The 33 cases of hypertension reported in this paper constitute a group of consecutive patients subjected to extensive sympathectomy. The oldest patient was 58 and the youngest 18. All but one had a resting systolic pressure of 190 or more before operation; one had a blood pressure of 185/100. There were 20 female patients and 13 male; all the patients were of the white race. All but two of the 33 patients could be followed up adequately. There were no post-operative deaths in the hospital and only one patient died at a later date, to our knowledge. The most recent patient was operated upon eight months before the data in this paper was assembled, admittedly a too short period for some of the patients, but certain findings and conclusions are probably significant (Tables I, II and III).

TABLE III

AGE AND POST-OPERATIVE RESULTS IN 31 CASES (REGARDLESS OF SEX):

Under 40 yrs.—(15 cases)—12 (80%) had systolic pressures of 160 or less in follow-up reports.

Over 40 yrs.—(16 cases)—9 (56%) had systolic pressures of 160 or less in follow-up reports.

SEX AND POST-OPERATIVE RESULTS IN 31 CASES (REGARDLESS OF AGE):

In 19 female patients: 15 (79%) had systolic pressures of 160 or less in follow-up reports.

In 12 male patients: 6 (50%) had systolic pressures of 160 or less in follow-up reports.

All but two of the patients whose post-operative systolic blood pressure is in excess of 160 (10 cases) are engaged in full or part-time work (Table I).

1. Women patients, regardless of age, may expect considerably better results than men.
2. Patients under 40 years of age may expect considerably better results than those over 40.
3. 68% of the 31 patients (in whom adequate follow-up data is available) had a systolic pressure of 160 or less.
4. Sympathectomy for vascular hypertension in properly selected cases carries a very low mortality.

It is believed that the present operation for the relief of hypertension (bilateral supra and infradiaphragmatic thoracolumbar sympathectomy and splanchnicectomy) is beneficial in selected cases of this disease, as the above data and discussion demonstrate.

BIBLIOGRAPHY

1. Voris, H. C.: Sympathectomy in Peripheral Vascular Disease and Hypertension, *Surg. Clin. N. Am.* **27**:139, Feb, 1947.
2. White, J. C., and Smithwick, R. H.: Automatic Nervous System, Ed. 2, The MacMillan Co., N. Y., 1941.
3. Hines, Jr., E. A., and Christenson, N. A., *et al.*: Symposium on Coarctation of the Aorta (5 papers), Proceedings of the Staff Meeting of Mayo Clinic **22**:121, Apr. 2, 1947.
4. Dandy, W. E.: Surgery of the Brain, W. F. Prior Co., Hagerstown, Md., 1945, p. 440.
5. Castleman, Benjamin, and Smithwick, R. H.: The Relation of Vascular Disease to the Hypertensive State, *J.A.M.A.* **121**:1256, Apr. 17, 1943.
6. Experimental Hypertension (N. Y. Acad. Science), *III*, P. 8, N. Y., 1946.
7. deTakats, Geza, Graupner, G. W.; Fowler, E. F., and Jensik, R. J.: Surgical Approach to Hypertension (2nd Report) *Arch. Surgery* **53**:111, Aug., 1946.
8. Isberg, E. M., and Peet, M. M.: The Role of Surgical Treatment in the Management of Hypertension, *S.O.M.J.* **39**:966, Dec., 1946.
9. Smithwick, R. H.: Surgical Treatment of Hypertension, *Arch. Surgery* **49**:180, Sept., 1944.
10. Southworth, J. L., and Russek, H. I.: A Technique for Testing Hypertensive Patients Pre-Operatively, *Ann. Surg.* **125**:119, Jan., 1947.
11. Peet, M. M.: Results of Bilateral Supradiaphragmatic Splanchnicectomy for Arterial Hypertension, *N.E.J. of Med.* **236**:270, Feb. 20, 1947 (Cases 1 and 2).
12. Page, I. H., and Corcoran, A. C.: Arterial Hypertension—Its Diagnosis and Treatment, The Year Book Publishers, Inc., Chicago, 1946.
13. Talbott, J. H.; Castleman, Benjamin; Smithwick, R. H.; Melville, R., and Pecora, L. J.: Renal Biopsy Studies Correlated with Renal Clearance Observations in Hypertensive Patients, Treated by Radical Sympathectomy, *J. Clin. Investigation* **22**:387, May, 1943.
14. Smithwick, R. H.: Experiences in the Surgical Treatment of Hypertensive Cardiovascular Disease in Man, *Cleveland Clin. Q.* **12**:105, Oct., 1945.

TRAUMATIC APPENDICITIS

STANLEY H. MACHT, M.D.,*
Baltimore, Maryland.

The question of whether or not acute appendicitis can be precipitated by external trauma has been debated at intervals in several journals. Maes *et al*[1] state "Most authorities are willing to admit that trauma may precipitate an acute attack in an appendix which is the site of an existing or a previous pathologic process, but deny that it can initiate disease in a normal appendix. From our point of view, that is rather begging the question; whether the trauma initiates a first attack or precipitates a second one makes no particular difference to the individual who is a victim". Burgess[2] states: "In going over closely the history and clinical course of many cases reported in the literature as instances of traumatic appendicitis, one must admit that coincidence alone would be overtaxed to explain the phenomenon".

The following three cases of acute appendicitis, preceded by trauma and proved by surgery, add additional evidence to the belief that trauma may produce an initial attack of acute appendicitis.

Case 1: P.G., a 15 year old white male, with no history of previous abdominal symptoms or complaints, was injured by several slabs of falling sheetrock. The blow struck the patient over the right side of the abdomen. He continued ambulatory, complaining only of slight soreness in the right side of the abdomen. Thirty-six hours later, the patient was awakened from a deep sleep by severe pain across the entire abdomen. This became progressively more severe and was accompanied by nausea. On examination the temperature was found to be 98° F. There was tenderness and pain on the slightest pressure over the right iliac fossa. Roentgenograms of the abdomen and pelvis showed no evidence of bone injury or gas under the diaphragm. After admission to the hospital the temperature became elevated to 100° F. and the leucocyte count was also elevated. The possibility of a traumatic rupture of one of the visceral organs was considered and a laparotomy was performed. The surgeon noted "Some evidence of a bruise in the abdominal muscles just medial to the spine of the right ileum". A grossly inflamed appendix was found and removed. The patient made an uneventful recovery. Pathological study of the specimen demonstrated an obstructed appendix and early acute suppurative changes.

Case 2: E.D., a 13 year old white male, presented himself ten hours after carrying a flag in a boy scout parade. He had carried the flag in a leather crotch holder for the first few blocks but, because of discomfort, had shifted the pole from the holder up to the right lower quadrant of the abdomen. During the entire parade, which lasted two hours, the lower end of the pole continuously pressed into the right lower quadrant with each movement. Within five hours afterwards there was sudden onset of acute abdominal pain which rapidly became more severe. At operation, eleven hours after the onset of the pain, there was found an acutely inflamed appendix which had perforated. The patient had never had a previous attack of appendicitis nor any previous abdominal symptoms.

Case 3: J. T., a 26 year old married, white female, was admitted to the emergency service because of nausea, vomiting, constant desire to defecate, and excruciating generalized abdominal distress. These symptoms began suddenly approximately six hours previously as she stepped down from a trolley car. The patient gave a history of two less severe, but otherwise identical, attacks, four and six months previously. Each of the three attacks began approximately fourteen hours after sexual intercourse which on each of the previous occasions had been more prolonged than usual. The remaining history was entirely negative. The patient's marital relationship had been satisfactory and there was nothing to suggest a psychosomatic etiology for the pain. On examination the temperature was found to be 97° F., the urine was negative, and the leucocyte count was 15,000. On each of the previous attacks the temperature had been subnormal and the leucocyte count had been 12,000 and 14,000 respectively. The abdomen was soft but there was marked tenderness on deep palpation over the right lower quadrant. At operation the appendix was found deep in the pelvis. It was markedly enlarged acutely inflamed.

*Now Director of Radiology, Baltimore City Hospitals, and Assistant Professor of Roentgenology, University of Maryland Medical School.

It had the appearance of a sausage tied at one end. At its proximal end, 1 cm. from the cecum, it was of normal size. The line of demarcation was sharp between the normal proximal 1 cm. and the remainder of the appendix. There was obstruction at this line of demarcation.

COMMENT

Each of the above cases demonstrated important features in common. These features were those listed by Bate[3] as being important in distinguishing obstruction of the appendix from primary inflammation in an attack of appendicitis. They are: "(1) the great severity of the pain; (2) the suddenness of its onset; and (3) the absence of disturbance of the pulse and temperature during the early stages of the illness". Connell,[4] in an excellent and comprehensive study of traumatic appendicitis, feels that the occurrence of traumatic appendicitis is a rarity. However, in his own survey, made from questionnaires sent to 125 leading surgeons in all parts of the U. S., he reports that, of 81 surgeons replying, 32.27% felt that it was possible for trauma to cause appendicitis, and 29.62% had seen cases in which trauma entered into the etiology. If 29.62% of a group has seen such a relationship, trauma as a cause cannot justifiably be considered as being a rarity. No one has suggested the possibility of acute appendicitis resulting in a female from trauma sustained in prolonged or violent copulation.

It has been theorized that a sudden change in intra-abdominal pressure causes an influx of cecal contents past a narrowed portion of the appendiceal lumen. Distention and subsequent edema then cause complete obstruction. If this were the explanation, it is hard to understand why more cases of appendicitis do not follow the commonly performed barium enema studies. In a vast percentage of the cases the appendix is visualized by barium entering its lumen. It is also frequently visualized six hours after the barium meal has been given by mouth for upper gastrointestinal examination. Such studies indicate that the appendix fills and empties itself of cecal contents more often than is realized. Gomez[5], after X-raying 21,000 patients, states: "The appendix should normally fill with the barium and the lack of visibility after careful roentgen examination almost always indicates that the lumen is obliterated as a result of an inflammatory reaction". In the same paper many other authors are quoted as having visualized the appendix in from 70 to 93% of the cases studied.

A more likely theory than the above would be one based on localized spasm of the intestine as the result of force transmitted from the injury. Hyperemia and tumescence follow relaxation of the spasm and occlude the orifice of the appendico-cecal lumen. Thus the entire chain of events produces obstruction resulting in pus under pressure.

SUMMARY

Three cases of acute appendicitis are described. Two followed trauma to the right lower quadrant. One, subsequently proved to have a deep lying pelvic appendix, followed internal trauma from prolonged sexual intercourse. All three cases presented the common clinical picture of a fulminating type of attack resulting from acute obstruction rather than inflammation of the appendix.

BIBLIOGRAPHY

1. Maes, and McFetridge, R. M.: Traumatic Appendicitis, *Am. J. Surg.* **30**:478-482 (December), 1935.
2. Burgess, C. M.: Traumatic Appendicitis, *J.A.M.A.* **111**:689, August 20, 1938.
3. Bate, J. T.: Appendicitis Induced by Trauma, *Am. J. Surg.* **48**:437, May, 1940.
4. Connell, J. E. A.: *Surgery* **7**:47-60, January, 1940.
5. Gomez, G. E.: Present Value of Roentgenology In the Diagnosis of Appendicitis, *Am. J. Roentgenology* **52**:624-635, December, 1944.

ROENTGEN MANIFESTATIONS OF INTRA-ABDOMINAL ABSCESS*

SAMUEL RICHMAN, M.D.
Radiological Service, Veterans Administration Hospital,
Richmond, Virginia.

Intra-abdominal abscesses frequently offer difficult diagnostic problems and, since prompt surgical intervention is often indicated, any aid in the accurate diagnosis of this condition may be of inestimable value. Roentgen examination of the abdomen has been of particular help in those cases where gas formation is present in the abscess. The organisms responsible for the production of gas may be the colon bacilli or anærobic streptococci. However, even in the absence of gas, evidence of a mass and its effect on neighboring structures plus clinical findings will usually suggest the proper condition. Reference will not be made here to subdiaphagmatic abscesses which constitute a separate entity.

As a matter of illustration of an air-containing abscess the following two cases are presented:

Case 1.—White male, aged 22, was admitted into this hospital on September 6, 1946. He stated that eleven days before he had run into the back of a truck, striking the right side of his abdomen. He had spent most of the intervening time in another hospital from which institution he was transferred here. Patient said that right after the accident he vomited twice, but since then, although he suffered from right upper abdominal quadrant pain and anorexia, he had not vomited. He had been taking fluids normally and had no disturbances in bowel habits. Examination revealed marked tenderness and spasm over the entire right side of the abdomen with moderate tenderness over the entire left side of the abdomen. On rectal examination, tenderness was noted on the right side. On admission, temperature was 103 degrees, and WBC numbered 19,500 with 73% PMN cells. On the following day, the temperature was 101 degrees, and WBC were 27,400 with 91% PMN cells.

Roentgen examination of the abdomen (Fig. 1) disclosed an oval-shaped area of decreased density, approximately 8.0 cm. in greatest diameter, in the right mid-abdomen. No haustral markings were noted in this area and the outline of its walls were smooth and regular. On films taken in the upright, and right and left decubitus positions, a definite fluid level was made out. Gas was seen in the cecum and ascending colon lying lateral to and below this shadow, but no fluid levels could be seen in these portions of the intestine. This finding immediately differentiated the shadow containing the fluid level from large intestine since, if it were part of the latter, the large intestine immediately proximal to this shadow should also contain a fluid level. In addition, numerous small areas of decreased density measuring 0.2 to 0.3 cm. in diameter and arranged in clusters were noted above the large pocket. These were interpreted as encapsulated gas bubbles not yet continuous with the main abscess.

Operation was performed by Dr. David Corcoran. When the peritoneum was opened, a small amount of gas escaped. An abscess containing about one quart of thick B. coli smelling pus was located just medial to the ascending colon. It was well walled off and no perforation was obvious. It was not deemed advisable to disturb the localized process by searching for such a perforation and accordingly the abscess was drained through a stab wound. Patient was placed on chemotherapy and post-operative course was uneventful.

Case 2—Male negro, aged 32, was admitted into the hospital on March 25, 1947, because of abdominal cramps and diarrhea of two weeks duration. Patient stated that he was in good health until two weeks before admission, at which time he was seized with a severe cramping pain in mid-abdomen. The pain in this area lasted for six hours, after which it became generalized. He then took a cathartic which increased the abdominal pain. A physician advised him to enter a hospital for appendicitis. The patient refused and consulted another doctor, who treated him for an "intestinal upset". The pain in abdomen, accompanied by some fever, persisted until three days before admission. Physical examination revealed the patient not to be acutely ill. There was a bulging of right abdomen and a suggestion of

*Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

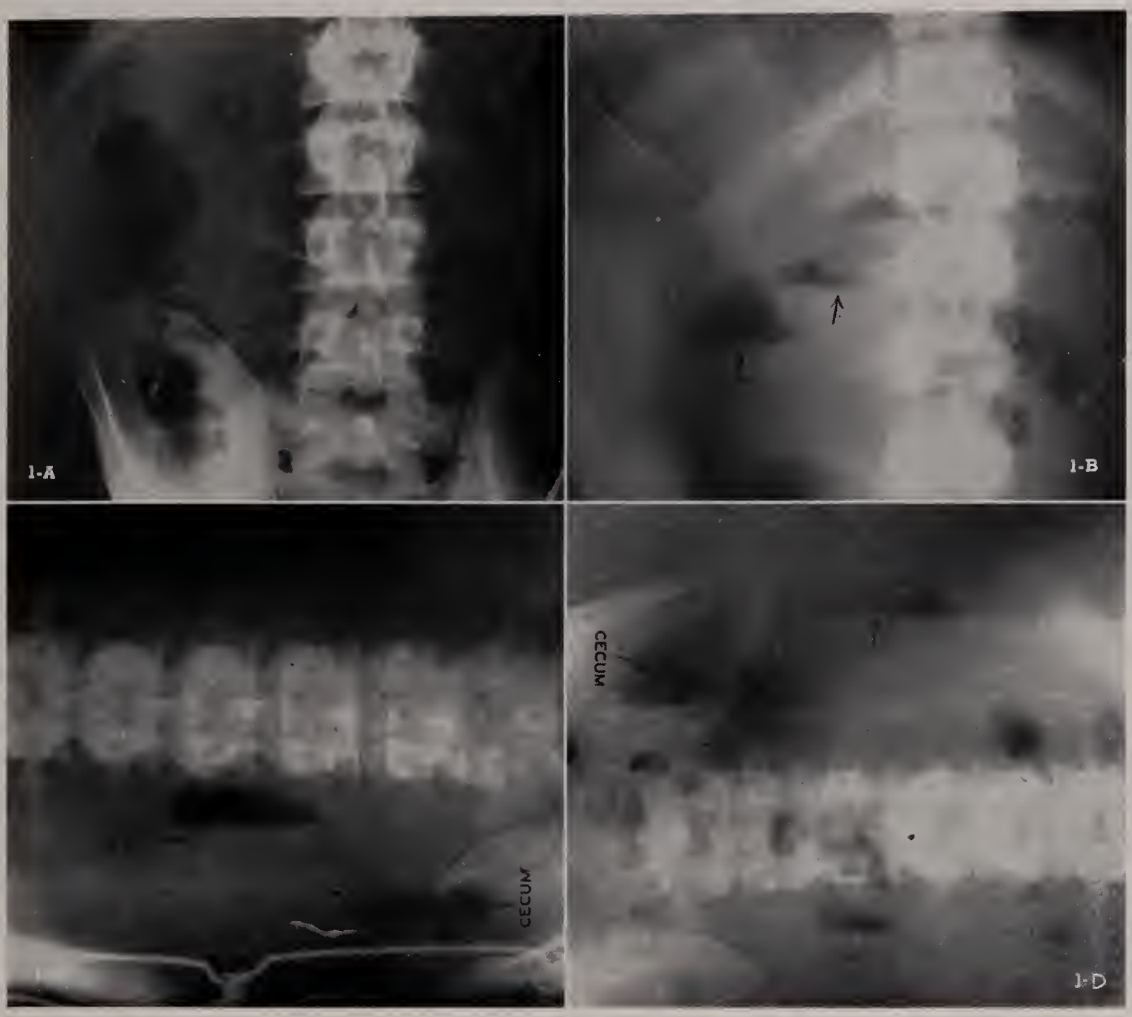


Fig. 1

(a) Area of decreased density (arrows) in right midabdomen, devoid of haustral markings.
(b) Note fluid levels in right abdomen, indicating the presence of at least two separate abscess cavities.
(c) Right decubitus position. One large fluid level is present. The vesicle-like areas of decreased density are outlined with arrows. Cecum has no fluid level.
(d) Left decubitus position. Fluid level is seen to be separate from cecum, which shows no such level.

a mass in right lower abdominal quadrant, over which tenderness was noted. Rectal examination disclosed no mass or tenderness. Temperature was 101 degrees; WBC 14,600, with 81% polymorphonuclear cells.

Roentgen examination of abdomen (Fig. 2) disclosed evidence of a smoothly outlined area of decreased density, 16.0 cm. in greatest diameter, in right mid-abdomen. In upright position, a fluid level surmounted by a column of gas, was seen within the above area. No abnormal distended intestine could be made out. The roentgen findings were characteristic of an intra-abdominal gas-containing abscess.

A diagnosis of an intra-abdominal abscess secondary to a perforated appendix was made and patient was placed on a liquid diet with high protein feedings. Supportive measures including transfusions of dextrose and blood, penicillin and sulfadiazine were employed. Patient became afebrile, his abdomen became normal to examination and his general condition improved considerably. He was discharged after a five weeks stay with the advice that he return for appendectomy in about two months or sooner if his general condition became aggravated.

To demonstrate a typical instance of a non-gas-containing intra-abdominal abscess, the following case is presented:

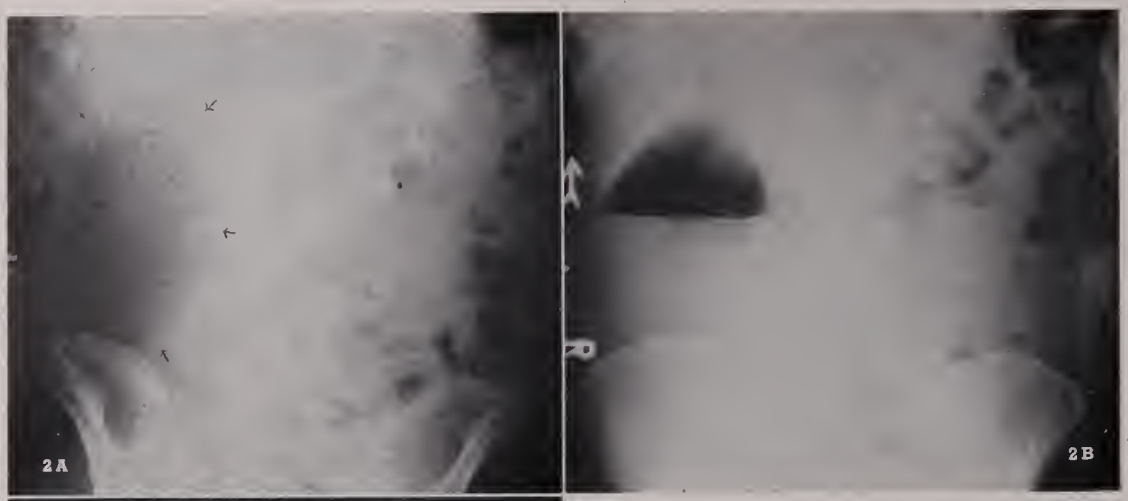


Fig. 2

(a) Oval-shaped area of decreased density in right abdomen.

(b) Large fluid level is seen clearly.

(c) Left decubitus position to demonstrate again the large fluid level.

Male negro, aged 26, was admitted into the hospital complaining of a "swelling" in left lower abdomen, pain and tenderness in that area as well as inability to empty the urinary bladder completely. He had had an appendectomy performed in this hospital sixteen days before and was discharged on the 12th post-operative day in good condition. His present symptoms began on the day following his departure from the hospital. Patient also stated that he had had no bowel movement for four days. Examination revealed an acutely tender abdomen with a large mass in left lower quadrant extending across the midline. This mass was tender per rectum. Temperature was 102 degrees and a moderate degree of leukocytosis was present. Urine was normal but 150 c.c. of residual urine was obtained. Roentgen examination of abdomen (Fig. 3) revealed the presence of a dense soft tissue mass in region of true pelvis. No fluid levels could be made out in this mass and no abnormally distended intestine was noted. This shadow could not have been due to a distended urinary bladder since an indwelling catheter was *in situ*. After the injection of barium per rectum, it was noted that the rectum was being compressed by a mass situated anterior to it and that the sigmoid was displaced upwards, to the left and posteriorly by the same mass. There was a distinct slowing but no obstruction to the flow of the barium and no intrinsic abnormality of the large bowel was found. In conjunction with the clinical findings, the diagnosis of an abscess lying in front of the rectum and sigmoid was made.

At operation (Dr. Philip Morrison, surgeon), an abscess containing old blood and pus was found all about the sigmoid and down along the rectum to a short distance above the perineum. The mass presented beneath the peritoneum in left lower abdominal quadrant. The upper and middle one-thirds of the sigmoid were rotated halfway around medially, forming a partial volvulus. The serosal surfaces of the sigmoid, rectum, and posterior wall of urinary bladder (latter forming anterior wall of abscess cavity) were covered with thick fibrinous material. The abscess wall was cleared out and drains inserted. Also adhesions in the mesentery of the upper one-half of the sigmoid were freed to reduce the volvulus. The appendiceal stump was normal. The

Fig. 3

(a) Increased density in pelvic region due to soft tissue mass. Urinary bladder catheter is *in situ*.

(b) Sigmoid colon, outlined with barium, is displaced upwards and to left by a large soft tissue mass.

(c) Sigmoid colon is pushed upwards and markedly compressed posteriorly.

etiology of the abscess could not be determined definitely, but a ruptured diverticulum of sigmoid was advanced as a possibility. The histological report of the excised tissue was "Abscess wall". Patient made an uneventful recovery and was discharged on the 34th day.

Discussion

On roentgen examination of the abdomen, under appropriate clinical indications, the finding of an area of decreased density showing fluid levels in upright or lateral decubitus examination of the patient, should lead always to the strong suspicion of the presence of an intra-abdominal abscess. This area may be located in some region where the gas-containing structures such as stomach and colon are usually not situated. It is fixed in position as seen in the different views made during the examination and presents a patternless outline in contrast to the colon which changes in position and has a crenelated appearance due to mucous membrane folds. In addition, the demonstration of a fluid level in such an area without its presence in the adjacent gas-outlined colon, indicates that this shadow is probably not part of the colon. Frequently, the colon itself may be seen to be displaced by the abscess. Bubble-like shadows, arranged in clusters, may be the first indication of the presence of an intra-abdominal abscess. These shadows are constant in location in contrast to the colon which changes in position and character. They are due to small air-containing vesicles separated from one another by fine peritoneal adhesions. They do not as yet contain fluid and with the gradual rupture of the adhesions, they will coalesce to form a large single pocket.

In the diagnosis of non-gas-containing abscesses, one finds an area of increased density which displaces the neighboring structures. A diagnosis cannot be made without essential clinical data to differentiate the possibility of such an abscess from a neoplasm.

The technic of the roentgen examination of the abdomen is always to take films with the patient supine, prone (if patient is not too ill to lie on his belly), upright, and a posterior-anterior projection with patient lying on left and then on right side. The diaphragms are always included unless a chest

film also is taken, which usually is the case in these patients.

If a non-gas-containing abnormal shadow is noted, a barium enema and sometimes a barium meal examination is advisable to ascertain the possibility of displacement of those portions of the gastro-intestinal tract adjacent to this shadow.

CONCLUSIONS

1. Roentgen examination of the abdomen may be of inestimable value in the recognition of intra-abdominal abscesses.

2. Evidence of an area of decreased density, with a fluid level below it, is a pathognomonic sign of the existence of such an abscess. Differential diagnosis between such a shadow and a portion of intestine containing gas and fluid is discussed.

3. An area of increased density combined with the demonstration of displaced neighboring structures, in the presence of supporting clinical features, indicates the existence of a non-gas-containing abscess.

4. The technic of the roentgen examination is simple and is explained in detail.

REFERENCES

1. Laurell, H.: Röntgenologische Zeichen abdomineller Ergüsse. *Acta Radiologica* **5**:63, 1926.
2. MacLennan, J. D.: Streptococcal Infection of Muscle. *Lancet* **1**:582-584, 1943.
3. Rigler, Leo G.: Roentgen Diagnosis of Acute Abdominal Conditions. Course delivered at Annual Meeting of Radiological Society of North America. Dec., 1946. Chicago, Illinois.
4. Weens, H. Stephen: Gas Formation in Abdominal Abscesses—A Roentgen Study. *Radiology* **47**:107 (Aug.) 1946.

Bee Stings Not Guaranteed to Help Arthritis.

The common belief that bee stings will alleviate the symptoms of arthritis isn't pure superstition, according to the answer to a query published in the November 8 issue of *The Journal of the American Medical Association*, but bee venom therapy cannot be recommended on the basis of the evidence now available.

"Bee keepers have been said to be immune to arthritis and they have been known to dispense the stings of their bees to the sick," *The Journal* says. "In Europe, places existed where rheumatic patients made pilgrimages for the sake of bee sting treatments. The natural venom of the bee contains a poisonous substance similar to cantharidin and a sapotoxin somewhat similar to that found in snake venom. The physiologic effects produced by injections of the venom of bees are said to be analogous to the effects of administering histamine.

"Since the procedure employed for bringing about the stinging of patients by live bees is somewhat hazardous, methods for harvesting the venom have been developed, and purified preparations suitable for injection are now marketed under various trade names. . . .

"The experiences of American physicians with bee venom therapy of arthritis have been varied. Some have been optimistic but, as most of the optimistic reports were based on uncontrolled studies, the results have not been widely accepted. . . . Untoward reactions to bee venom therapy are fairly common. . . .On the basis of the evidence available at this time, bee venom therapy cannot be recommended. It is not now in use in any of the representative larger American rheumatism centers."

THE TREATMENT OF LARYNGEAL TUBERCULOSIS WITH STREPTOMYCIN

FRANCIS H. MCGOVERN, M. D.,
and
L. R. BROOME, M. D.,
Danville, Virginia.

Laryngeal tuberculosis is a serious complication of pulmonary tuberculosis, usually indicating a virulent infection in a patient who has minimal resistance to tuberculosis. Modern collapse and other therapies have been successful in reducing the incidence of laryngeal involvement, but the treatment of laryngeal tuberculosis itself has always been prolonged and difficult. The report of Figi and Hinshaw* on the complete healing of cases of laryngeal tuberculosis in a matter of several weeks following use of streptomycin was remarkably impressive.

Similar experience in the rapid healing of tuberculous ulceration of the larynx following the use of streptomycin prompted us to report the following cases.

The first patient, a white male, age 27, was discovered to have moderately advanced tuberculosis involving the right upper lung in October, 1941. He was admitted to a sanatorium and right artificial pneumothorax was induced. An internal pneumonolysis was done soon afterward. A satisfactory collapse was maintained, and the patient consistently improved. He was discharged in May, 1942, to continue his treatment at home. He began to work part time in the Fall of 1942. Late in 1946 reexpansion of the right lung had been attempted, but with little appreciable result. He remained nonsymptomatic and apparently arrested until January, 1947, when he complained of a persistent annoying sore throat without hoarseness. Examination of the larynx showed a large ulcerated lesion involving the right arytenoid and right venticular band. X-ray of the chest showed tuberculosis infiltration in the upper part of the left lung. Biopsy of the laryngeal lesion was reported as chronic granuloma. Under local sulfonamide therapy the ulceration increased in size and depth. The direct laryngoscopy was repeated a month later and the biopsy was reported as follows:

"The sections show a few tiny active miliary tubercles in one of the blocks. There is marked ulceration of the overlying epithelium."

The patient was admitted to the Hilltop Sanatorium on April 4, 1947, for streptomycin therapy. He was given one gram of streptomycin divided in six doses intramuscularly each 24 hours for one week, and then 1.5 grams daily for nine weeks. The streptomycin was also administered as a laryngeal spray every four hours. At the end of two weeks the ulceration showed marked improvement and the pain was relieved, and at the end of one month the ulcer had completely healed. X-ray of the chest showed improvement in the left lung. There were no toxic vestibular or other effects of the drug noted.

The only general measure employed was modified bed rest.

He was discharged on June 29, 1947. Subsequent X-ray examinations of the chest have shown evidence of continued improvement.

The second patient, a white male, age 30, entered the Sanatorium in April, 1942, with the diagnosis of moderately advanced tuberculosis. He was discharged as improved three months later. After resting at home for six months he returned to work and remained well until October, 1944, when he complained of loss of appetite, weight and strength, together with cough, sore throat, and blood spitting. He re-entered the Sanatorium in December, 1944, and has continued under sanatorium care since that time. A right phrenicotomy was done on July 9, 1946, and left pneumothorax started on July 16, 1946. These measures were aimed largely at the sore throat which had been intractable and was requiring local anesthetics to facilitate eating; there was little improvement.

Examination of the throat before starting streptomycin showed an enormous pale, infiltrated, ulcerated, turban-shaped epiglottis; the interior of the larynx could not be seen.

Streptomycin was started as above on August 2, 1947. One week later the patient was able to eat

*Figi, F. A., Hinshaw, H. C., and Feldman, W. H.: Proc. Staff Meet. Mayo Clinic, **21**:427, March 20, 1946.

with comfort for the first time in over a year. The throat has improved steadily but is not yet well. The cords are visible and are not involved. The chronic pulmonary disease has not changed appreciably. The right diaphragm has resumed its function and left pneumothorax is adequate.

Comment.—The role of streptomycin in tuberculosis is just beginning to be evaluated. It is apparently valuable as an adjuvant in the treatment of pulmonary and extra-pulmonary tuberculosis. Tuberculosis of the larynx, hypo-pharynx and tracheobronchial tree appears to be especially favorably responsive to streptomycin. One to three grams of streptomycin given parenterally in divided doses daily has been advised. Aerosol streptomycin has been used in conjunction with the intramuscle injection, using .5 gram of streptomycin hydrochloride dissolved in 20-30 cc. physiologic saline; usually 2-3 cc. is administered at the beginning of each hour for ten hours each day.

Sanatorium care and collapse procedures continue as fundamental treatment.

Inasmuch as the laryngeal lesion in the first case had become progressively larger up to the time of treatment with streptomycin, and healed so promptly, we had little doubt that the streptomycin was the causative factor. The striking symptomatic improvement in the second case illustrates the value of this form of treatment in obstinate cases of tuberculosis.

The response of the pulmonary lesion is also of interest.

Conclusion.—The successful dramatic healing of tuberculous laryngeal lesions following the use of streptomycin is reported. With lowered cost and increased purity and further experience, the role of streptomycin in the treatment of tuberculosis will be more clearly defined in the near future.

604 Masonic Temple

Floral Eponym (60)

ALBERTA

ALBERTUS MAGNUS, 1193-1280.

ALBERT von Bollstädt, commonly called Albertus Magnus, was successively a teacher at Paris and Cologne and Bishop of Ratisbon. He died in Cologne. Siebold gives the date of his death as 1282, although 1280 is the year usually given. He was the Aristotle of his period. He wrote extensively on plants and animals but, according to Garrison, did not write on medical practice, a subject forbidden to Dominicans. The often reprinted work on cosmetics (De secretis mulierum) which goes by his name was really a compilation of his pupil, Henry of Saxony. It contains a description of an early perineorrhaphy.

Alberta is the name given to two species of the madder family. One of the species has been introduced as a hothouse plant.

TREATMENT OF RHEUMATOID ARTHRITIS*

M. MORRIS PINCKNEY, M.D.,
Richmond, Virginia.

Since rheumatoid arthritis is a systemic disease the etiology of which has never been discovered, treatment must be non-specific and empirical, and conceived as a combined operation utilizing all available and known means to restore pathological tissues to a normal state. No patient must ever be promised a cure of arthritis, but told, honestly and simply, the complicated nature of the disease, its tendency to exacerbation and remission, the methods of treatment considered helpful, and newer methods of treatment which are now on trial. The physician must encourage the patient to follow treatment assiduously, though cure cannot be promised, not for weeks only, but for months and perhaps years, and must attempt by every honest manner to substitute in the patient and family hope for discouragement and equanimity for anxiety.

Therapy of such a generalized disease is based primarily on common sense plus patience. The individual as a whole is sick—sometimes feverish, often under-weight, usually anemic, perhaps anorexic, constipated, and always apprehensive and fearful of crippling and invalidism.

In treatment, general measures of accepted value as outlined by Comroe are as follows:

1. Rest in bed on a firm, non-sagging mattress is "essential for weeks or months in the acute, febrile state, in those whose disease is progressing rapidly, in those with marked deformity or inflammation of the weight bearing joints, and in the debilitated."

In less severe states, 2 to 4 hours rest at midday is needed, with 10 to 12 hours in bed at night. Rest in a chair is conducive to deformities and should not be substituted for rest in bed.

2. Rest of the involved joints, with splinting to prevent deformity and ease pain, is essential. Splinting may be carried out by split shell casts, bandaging, sand-bags or braces, and should be removed daily for exercises. Pillows should never be placed under the knees as this is probably the most frequent cause of flexion deformity of the knees. The feet, while the patient is in bed, should be kept in dorsiflexion by means of a footboard or other support. For patients with very tender joints, the weight of the bed clothes may have to be supported by a cradle.

3. Physiotherapy: Active and passive exercises should be begun early. Removing splints from affected joints once or twice daily will permit passive movements of joints to prevent adhesions. In less acutely inflamed states, attempts should be made to move joints through as wide a range of motion as possible by both active and passive exercises. Muscle setting exercises must be done daily by the bed patient, which consist of tightening and relaxing all the muscle groups of the extremities without actual movements of the joints. Deep breathing exercises should be done by all patients, especially those with involvement of the spine.

Hot compresses or formentations may be applied with comfort to acutely inflamed joints for 30 minutes 2 or 3 times daily. Other methods of providing heat may be used for the chronic types if desired. Do not employ ultra-violet radiation, short-wave therapy or hot baths in treatment of individuals with acutely inflamed joints. Gentle massage may be begun early; however, do not massage the acutely inflamed joint, but rather the muscles between the joints by gentle stroking. In chronic and less active cases, more vigorous muscle massage may be used. Remember always that if exercise, massage or heat increase pain or swelling, or cause fatigue, the treatments are too strenuous and must be given subsequently with less intensity or omitted.

4. Diet should be given to suit the needs of the individual. In general, a high calorie, high vitamin diet is needed as the majority of the patients are under-weight. For obese patients, a reducing diet is indicated. Common sense must dictate the diet, as everything else. Meats, milk and dairy products, all vegetables, fruits, and grains are needed, and perhaps extra vitamins, as in cod liver oil, may be used. It may be well to restrict great consumption of concentrated carbohydrates as candy and sweet desserts, for some rheumatic patients note an increase in pain apparently following excessive consumption of sweets. Dietary fads and

*Read at the Symposium on Therapy, February 18-19, 1947, Medical College of Virginia, Richmond, Virginia.

vitamins in large doses will not cure arthritis, and the writer knows of no controlled series of cases benefited by massive doses of vitamin D or any other vitamin. Frequently the asthenic patient will need an appetite stimulant before meals, for which bitters, alcohol, or even insulin may be used. Many apprehensive patients will be able to eat more if a pre-prandial sedative is employed. The frequency of gastric hypochlorhydria or achlorhydria in rheumatoid arthritic sufferers is such that many require hydrocholoric acid and pepsin with meals to prevent dyspepsia. Diet will usually control constipation, but enemas and laxatives may be necessary.

5. Relief of pain will usually follow immobilization of the inflamed joint by bed rest, splints or bandages. Analgesics sometimes may be necessary, aspirin and/or phenacetin usually sufficing. Practically never are opiates needed, and unfortunately many of those addicted to narcotics appear to have been introduced to such drugs by careless physicians in the treatment of chronic diseases such as rheumatism or asthma. Demerol, of course, is included among the forbidden or dangerous drugs. Sedation may be necessary to induce sleep at night.

6. Anemia, which is usually present, may be treated with iron orally. Sometimes, in the debilitated, transfusions of blood are of great value, using one or more transfusions to restore the blood to a normal level.

7. Thyroid extract is frequently necessary, especially in the chronic rheumatoid whose metabolism is low.

8. Concurrent or associated disease states must be corrected if possible, such as diabetes, cystitis, dental infections, etc. Foci of infections are fortunately not uprooted as radically now as 10 to 20 years ago. We have learned that the removal of an abscessed tooth will not cure rheumatoid arthritis, and such the patient must be told. But abscessed teeth or infections in other parts of the body must be treated as diligently, but more cautiously, in the rheumatic as in the non-rheumatic person. If several teeth require removal, it is best to remove one at a time with several days interval between extractions, and to administer some "sulfa" drug or penicillin for the day before and several days following extraction. "Make haste slowly" with all operative procedure, but attempt to restore to normal all abnormalities.

The suggestions made above are simply those dictated by common sense and are generally accepted as of great value in treatment. Perhaps 50% or more of cases will be "arrested," if such a term may be used, by the above only.

Now we will take up some of the unproven or experimental methods.

1. Prostigmine for the relief of muscle spasm. This, in conjunction with atropine to diminish gastro-intestinal effects, has been widely used in the past several years, and we fear its effects have been disappointing in general. If muscle spasm exists, prostigmine is well worth trying, either 1 c.c. of a 1-2000 solution hypodermically, or orally in doses of 15 to 30 mgm. t.i.d.

2. X-ray therapy seems to be beneficial in certain cases of rheumatoid arthritis—in particular, spondylitis. In rheumatoid spondylitis X-ray "treatment is probably the most valuable single therapeutic procedure available," according to Comroe,[1] "for in most early cases it will relieve or abolish pain, improve motion, and prevent deformities."

Kuhns and Morrison[2] recently reported that, of 98 patients with rheumatoid spondylitis, 15% noted no change after X-ray therapy, 35% noted slight improvement, 38% moderate improvement, and 12% marked improvement. The same authors also noted that, of 154 cases of rheumatoid arthritis without spondylitis, 20% were unchanged after X-ray therapy, 40% showed moderate improvement, and 23% showed marked improvement. In other words, in this series X-ray treatment resulted in moderate to marked improvement in 50% of spondylitis cases and in 63% of cases without spondylitis.

That roentgenotherapy is of definite though limited value in treatment of joints other than the spine is borne out by reports from New York University[3], but other observers are less enthusiastic, and Freyberg,[4] of Cornell, states that roentgen therapy for rheumatoid arthritis of the extremities is unreliable. Roentgenologists in Richmond were informally asked their opinion of the value of X-ray therapy in rheumatoid arthritis. All believe that such therapy is worth trying in the case of early spondylitis in an effort to relieve pain, and the results are occasionally brilliant but often nil. But such treatment is purely symptomatic. No enthusiasm or little was expressed for the use of such therapy in the treatment of peripheral joints in

rheumatoid arthritis. Such treatment should be regarded as a local treatment only, an adjunct to usually accepted medical procedures. Therefore, except in treatment of rheumatoid spondylitis, X-ray therapy should be classified among the unproven agents.

3. Gold therapy has been utilized for 18 years, and its merit is still unproven though its dangers are well known. Unfortunately the use of gold is attended by such danger that each patient to whom it is administered must be closely supervised. Frequent laboratory studies, such as blood leukocyte counts, differential smears, and urinalyses must be done, in certain clinics and offices being performed routinely each week before the injection is given. Before any physician decides to employ gold in his practice, he must familiarize himself thoroughly with all the indications and contra-indications to gold, its toxic properties, and the evidences of unfavorable reactions. The value of gold is undecided but since it is being so widely used by many careful investigators, it is probably of merit. It is not wise to begin gold for several months until a trial of common sense and accepted procedures has failed to check the disease, and then only in selected patients. Careful follow-up studies at the Massachusetts General Hospital published by Short[5] last September accent the questionable therapeutic value of gold. Short and his co-authors declare, first, that gold is not a specific, and, second, that "results obtained with gold may be approximated with those in patients given general conservative treatment."

4. Foreign protein and fever therapy may be helpful in certain cases, such as those complaining of stiffness after the recovery phase has come to a standstill. But seldom is such therapy indicated.

5. Procaine, or nupercaine, has been used to provide relief of pain by infiltration into the muscles and ligaments, but, of course, any benefit is temporary.

6. Many other drugs, vitamins and procedures have been tried without discernible effect, and these will be mentioned and dismissed as useless: liver extract, arsenic, calcium, sulphur, bee venum, benzedrine, iodides, chaulmoogra oil, inhalations or injections of oxygen, inhalation of carbon dioxide, vaccines of streptococci and other bacteria, and even splenectomy.

BIBLIOGRAPHY

1. Comroe: Arthritis and Allied Conditions, Lea & Febiger, 1945.
2. Kuhns and Morrison: *N. Eng. J. Med.* **235**:401-405, September 19, 1946.
3. Borak and Taylor: *Radiology* **45**:377-384, October, 1945.
4. Freyburg: *M. Clin. N. Am.* **30**:603-615, May, 1946.
5. Short, Beckman and Bauer: *N. Eng. J. M.*, **235**:362-367, September 12, 1946.

Infants of Morphine-Addicted Mothers.

Infants born to mothers who are morphine addicts show all the symptoms of a morphine addict whose source of supply has suddenly been cut off, and if not properly treated may die of convulsions during the first week of life, according to an article in the November 8 issue of *The Journal of the American Medical Association.* The author is Meyer A. Perlstein, M.D., Chicago.

"The infants are born at full term and are apparently normal," Dr. Perlstein writes, "but their addiction matches that of their mothers. Separation from the maternal circulation shuts off the supply of drug to the newborn; and withdrawal symptoms ensue within three days. . . .

"In the past, some investigators erroneously assumed that morphine was excreted in human milk; hence, breast-feeding by the addicted mother was a method employed in the treatment of congenital morphinism. It is a fact, though, that morphine is not thus excreted, and the emphasis in treatment is now directed toward sedation."

In the case which Dr. Perlstein mentions dosage with phenobarbital brought about prompt recovery, the drug being continued for eight weeks before being tapered off and stopped.

TREATMENT OF MIGRAINE*

J. WARRICK THOMAS, M.D.
Richmond, Virginia.

The recognition of a relationship between migraine and allergy is not new. Sick headache has been known for centuries, and its association with the ingestion of food was recognized long before its allergic nature was appreciated. The differentiation of this type of headache from others and which was termed "heterocrania" was recognized by Arætæus. Galen explained the condition of hemicrania on a basis of cortical irritation by black bile. Lesne and Richet, Jr., (1913) were the first to suggest that migraine might be caused by allergy to egg or milk and this was confirmed by Pagniez and his associates. Many others, including Vaughan, have demonstrated conclusively the allergic etiology of migraine. He showed that symptoms were relieved by avoidance of foods to which the patient reacted positively by skin test and that symptoms recurred after the ingestion of the suspected food.

Definition: The word migraine is derived from the Greek and signifies half the skull. It is characterized by periodic or recurrent headache, often incapacitating, usually unilateral, frequently preceded or accompanied by an "aura," usually visual, and as a rule terminating in nausea and vomiting. These headaches may be termed by the laity as "sick headaches." Such headaches must be differentiated and not confused with those due to infection, ocular, oral, sinus disease, glandular dysfunction, from cardiovascular, nephritis, hypertensive disease, from cerebral tumor and other diseases of the nervous system such as syphilis, or from trauma and arthritis.

Severity of migraine headaches may vary from the mild form to blinding or splitting headaches. One or more symptoms may be absent, and the headache may occur alone. Visual or cerebral manifestations may exist without headache and are referred to as "migraine equivalent."

PATHOLOGY

The pathology of migraine is as yet unknown. Rowe described these symptoms as allergic due to localized edema of the meninges or possibly the brain parenchyma, or to vascular spasm from smooth muscle contraction as a result of localized areas of sensitivity in the blood vessels. Some are of the opinion that there is an impairment of liver function, which may be caused by the localized allergic reaction in the liver or the liver may be termed a shock organ in man.

Goltman interpreted the mechanism of the attack as an initial vasomotor spasm evidenced by blanching of the face. Secondary vascular dilation then occurs, resulting in edema of the brain as demonstrated by bulging of the trephined area, causing a disproportion between the size of the cranial cavity and the brain.

Others suggest that the best explanation of migraine is favored by the possibility of urticaria-like lesions.

Alvarez suggests that nausea, vomiting and dizziness in migraine may be caused by cerebral irritation producing vagal stimulation which disturbed the intestinal gradient.

CLASSIFICATION

This headache is so often found to be a symptom of some other disease that it is difficult to think of headache as a separate entity. In general, however, headache may be classified as *allergic* and *non-allergic.*

Allergic Headache.—The allergic headache or true migraine occurs intermittently, often incapacitating, and frequently follows exposure to allergens. It may be unilateral at onset, later becoming generalized, accompanied by or preceded by cortical or visual sensory disturbances, and later ending in nausea and vomiting.

Rowe suggests migraine may be divided into four stages: (1) the prodromal; (2) the aural; (3) the culminative; and (4) post-migrainous. Symptoms of migraine are quite variable and are summarized by Vaughan and Todd as follows: premonitory hyperactivity, or irritability, or depression, disturbed or blurred vision, emotional imbalance, yawning, insomnia, profound sleep, fatigue, bad breath, canker sores, abnormal appetite, nausea, vomiting, constipation, indigestion, body aching, stretching or chil-

*Read at the Symposium on Therapy, February 18-19, 1947, Medical College of Virginia, Richmond, Virginia.

liness. The attacks may progress with pronounced viscereal and vasomotor symptoms involving cranial or peripheral nerves. The pain varies in intensity and location and may be progressive. Nausea and vomiting occur in patients of all ages, varying in severity and in duration from few minutes to several hours. A single attack may persist from a few hours to a week. The residual symptoms include general malaise, drowsiness, anorexia, polyuria, rhinorrhea and varying degrees of exhaustion. Associated symptoms have been described by various authors to include transient psychoses, ocular palsies, neuralgia, paroxysmal tachycardia and epilepsy.

Headaches Secondary to Nasal Obstruction.—These are sinus headaches resulting from nasal or upper respiratory tract allergy and are usually secondary to nasal obstruction, not so characteristic as migraine, and may lack definite symptomatology and periodicity.

Vacuum or Frontal Type of Headache.—This is due to nasal obstruction. The name of this headache is misleading and may be doubted by some. Diagnosis is made by shrinking mucosa on involved side with relief of symptoms.

Non-Allergic Headache is distinguished from allergic or migraine type: (1) headache due to sinus infection; (2) headache secondary to eye strain or other eye conditions; (3) neurologic headache due to disease or trauma; (4) endocrine or metabolic headache, such as is seen in hyperthyroidism or hypothyroidism, or associated with menstrual periods; (5) gastro-intestinal headache; (6) headache associated with cardiovascular disease, such as hypertension or arteriosclerosis associated with small hemorrhages; (7) headaches related to or resulting from bacterial infection due to foci or syphilis, malaria, or acute respiratory disease; (8) headache associated with arthritis, which may be muscular or secondary to frank osteoarthritis of cervical spine; (9) psychogenic headache; (10) miscellaneous headaches or those of undetermined origin; which include histamine headaches, Meniere's disease.

INVESTIGATION

Detailed history and special studies are dependent on the individual cases and may include Roentgen examination, basal metabolic rate, sensitization studies with various foods, inhalants, bacteria, molds and pollens. The medical management of other diseases is important and necessary.

TREATMENT

A. Symptomatic:
1. Ergotamine tartrate (gynergen 0.25 mg.) most effective by hypodermic—DiHydro Ergotamine 1 c.c.
2. Epinephrine 1:1000 (adrenalin — minims 5-15).
3. Coal tar derivatives (acetanilid, phenacetin, or aspirin).
4. Barbituric acid derivatives (sodium amytal, phenobarbital, nembutal).
5. Endocrine therapy, including pituitrin.
6. Saline cathartics and colonic irrigations.
7. Gastric lavage.
8. Avoidance of fatigue and emotional upset.
9. Cold and occasionally hot applications.
10. Narcotics (codeine, morphine, dilaudid, demerol).
11. Oxygen by inhalation.

B. Therapeutic or Curative Treatment:
1. Elimination of allergens, known and suspected
   (a) inhalants
   (b) ingestants (food-diary)
2. Hyposensitization with inhalants.
3. Autogenous vaccine and non-specific therapy.
4. Digestive aids
   (a) Dilute hydrochloric acid
   (b) Bile salts
   (c) Pancreatic enzymes
5. Surgical treatment
   (a) Removal of foci of infection (teeth, gallbladder, tonsils)
   (b) Sympathetic ganglionectomy
6. General measures
   (a) Control of nervous factors, adequate rest, diet, and vitamin intake
   (b) Use of glandular extracts
7. Histamine.

SUMMARY

Headaches are classified as allergic and non-allergic. The etiology and symptomatology of the allergic headache is discussed. Non-allergic headaches are grouped for the purpose of classification and differential diagnosis from the standpoint of etiology and associated clinical manifestations.

Allergic migraine has been postulated as a reaction to contact with an allergen, usually a food, al-

though inhalants have been incriminated. These headaches are recurrent, may be unilateral, are accompanied by visual and gastro-intestinal disturbances, and by pain of varying intensity. The attacks are not infrequently preceded by an "aura," and, if treatment is instituted early, the severe symptoms may be aborted.

Headache secondary to nasal obstruction, such as seen in allergic rhinitis, which may be the so-called "sinus," "vacuum," or "frontal" headache, is relieved by shrinking the nasal mucous membrane. Adequate allergy management is indicated.

Recurrence of headache following exposure to offending allergens and the presence of coexistent allergic manifestations confirm the diagnosis of an allergic or migraine headache.

Urethane in Leukemia.

Urethane, a drug recently used with promising results in treatment of leukemia, sometimes called cancer of the blood because the white blood cells multiply too rapidly, is apparently more toxic in leukemia than is generally believed, John Joseph Webster, M.D., New York, warns in the December 6 issue of *The Journal of the American Medical Association.* He reports the second case in which a patient died after treatment with the drug.

Urethane, used chiefly in other diseases to relieve fever and spasms and produce sleep, has always been considered relatively safe and nontoxic. The first report of the effect of urethane in leukemia appeared in 1946. It revealed that the drug usually causes a decrease in white blood cells in this disease.

In the fatal case which Dr. Webster reports, the patient was treated with x-rays and later with daily doses of urethane. The drug was withdrawn because the patient developed complications, but he died within a short time—with his once-too-numerous white blood cells virtually non-existent.

"Urethane promises to be a valuable aid in the therapy of leukemia," Dr. Webster writes, "but the reports of untoward results warrant further investigation before widespread use is advocated."

New Books.

We give below names of some of the newer books at the Library of the Medical College of Virginia, which may be borrowed by our readers under usual library rules:

Dunbar—Mind and body. Psychosomatic medicine.
Fletcher—Medical disorders of the locomotor system including rheumatic diseases.
Gibb—Optical methods of chemical analysis.
Hauser—Colloidal phenomena.
Hazlett—Introduction to industrial medicine.
Henderson and Fernelius—A course in inorganic preparations.
Jackson and Parker—Hodgkins disease and allied disorders.
Joad—Guide to philosophy.
Kestenbaum—Clinical methods of neurologic examination of the eye.
Kracke—Color atlas of hematologie.
Lederer and Hollender—Textbook of the ear, nose and throat. 2nd ed.
Lilly Co.—Diabetus mellitus.
Psychiatric research, a symposium.
Rubin—Diseases of the chest, with emphasis on x-ray diagnosis.
Sherf and Boyd—Cardiovascular diseases. Their diagnosis and treatment.
Sills and Lesly—Public relations, principles and procedures.
Thomas—Colloid chemistry.
Weaver ed.—The scientists speak.
Weinmann and Sicher—Bone and bones: Trend of bone biology.
Wright—Researches on normal and defective color vision.

CIRRHOSIS OF THE LIVER—SOME COMMENTS UPON THE CLINICAL DIAGNOSIS AND MEDICAL MANAGEMENT*

LLOYD L. THOMPSON, JR., M.D.,
Resident in Medicine, Instructor in Medicine,
Medical College of Virginia,
Richmond, Virginia.

In this discussion of cirrhosis, the subject will not be restricted to cirrhosis as defined by the pathologist. It is fairly generally agreed that to make a pathological diagnosis of cirrhosis, there should be evidence of liver cell degeneration and regeneration with connective tissue proliferation. We have biopsied the livers of a number of patients who have presented themselves with fully-developed clinical cirrhosis. In many of these, the only abnormal finding has been that of fatty change. Thus, we prefer to speak in terms of a chronic hepatopathy, although realizing that in many of these patients, if untreated, the final picture in the liver would be that of a true cirrhosis. Further, we do not choose to separate liver disease into toxipathic or trophopathic disorders, for either of these may produce or contribute to a chronic hepatopathy.

In the diagnosis of chronic liver disease, the patient's history may or may not be helpful. When the liver changes have progressed to the point where there are indicative clinical findings, the disease has probably been present for a long time. A careful inquiry into the patient's past history may reveal that there has been one or more attacks of jaundice which may have initiated the cirrhotic process. There may be a vague history of anorexia, indigestion, diarrhea, nausea or vomiting which were ascribed to causes which seemed more obvious at the time of the complaint. Pain, diffuse or restricted to the right upper quadrant, is a complaint that is not uncommon. This is difficult to explain unless there is perihepatitis or perisplenitis. A feeling of progressive weakness and lassitude, with or without weight loss, over a short or long period of time may be the only reasons why the cirrhotic patient seeks advice. A careful questioning may reveal evidence of thyrotoxicosis. Although this is probably as infrequent as hepatitis as a cause of cirrhosis, it is generally accepted that the incidence of liver damage is high in patients with thyrotoxicosis. I do not feel that the liver has been ruled out as the most responsible organ in the pathogenesis of thyroid crisis. There is much evidence to support the view that thyroid crisis is a manifestation of hepatic failure. When thyrotoxicosis is accompanied by auricular fibrillation and some degree of congestive failure, the patient probably suffers a more marked degree of hepatic insufficiency. Although we have found a consistently higher grade of bromsulphthalein retention in cardiac failure than in cirrhosis, we feel that even repeated bouts of congestive failure do not in themselves frequently cause cirrhosis. True cardiac cirrhosis is a diagnosis more often made by the pathologist than by the clinician.

A history of alcoholic excesses is significant. Although it has been impossible to prove alcoholism to be a direct cause of cirrhosis, the usually concomitant dietary deficiency is probably of profound significance. Experimentally, alcohol alone has not been successfully used in the production of cirrhosis, but when alcohol is used as an adjunct to a method known to produce cirrhosis, a more severe degree of damage is usually produced. It is probable that the most common background in cirrhosis is that of a poor diet, especially one low in certain essential amino acids and the vitamin-B complex.

The cirrhotic patient usually presents himself with one or more of a fairly typical group of signs. In the majority of these patients, the distended abdomen of ascites is the chief complaint. This is probably the result of both portal hypertension and hypoalbuminemia. These factors are also culpable in the production of the edema that is occasionally seen. Hemorrhage, usually from esophageal varices, may not only be the initial sign of cirrhosis in a significant number of cases, but also has been reported as the cause of death in as many as 25% of cirrhotics. We have seen treatment-resistant cardiac failure initiated by hemorrhage from esophageal varices in a patient with mitral stenosis. It must be remembered that bleeding may also occur from the nasal and pharyngeal plexuses with re-

*Read before the Wise County Medical Society, February, 1947.

sultant epistaxis and hemoptysis. One wonders at the comparative rarity of hemorrhoids in cirrhosis; bleeding piles seem to be less important than nosebleed in this condition.

A smaller group of patients present with jaundice; this is indicative of rather severe and far-advanced liver damage and is usually a late occurrence. In this connection, it might be mentioned that the appearance of jaundice in the cirrhotic patient with pneumonia or other severe febrile illness is a bad prognostic sign and may indicate that *exitus* is imminent. Jaundice is often accompanied by pruritis and in many cases the pruritis will antedate the jaundice and all other signs of cirrhosis.

In a few patients hepatomegaly and/or splenomegaly may be the first indication that something is not quite right. Not unusually the splenomegaly is more prominent than the hepatomegaly. We have recently seen a few patients who were referred for treatment of severe anemia that resisted all efforts at treatment. Transfusions, liver and iron were apparently worthless in elevating the marked depression of hemoglobin and red cells. Biopsy showed the presence of chronic liver disease. After a month to six weeks treatment on a "liver regime", these anemias would begin to slowly improve. Fever may be present for prolonged periods of time without apparent cause. We have noted with interest that, after subsidence of infectious processes complicating chronic liver disease, the temperature is frequently elevated for a week or more. Of course, fever itself is deleterious to the liver, the principle autopsy finding in cases of death due to hyperthermia being those of severe liver damage.

The examination of the patient with cirrhosis usually reveals a rather thin (except for the ascitic bulge) apathetic, pallid individual with flushed cheeks and a rather sparse body hair. If a male, as is more common, the patient may exhibit gynecomastia and testicular atrophy. These are generally conceded to be due to failure of the liver to metabolize estrogenic substances. The skin is dry, inelastic, muddy-looking. Evidence of collateral circulation may be seen in enlargement of the superficial abdominal veins. Spider or stellate nevi, a peculiar form of telangiectasia in which small vessels are seen radiating from a central point, are frequently noted on the upper thorax, head and neck. These seem to appear and regress with the severity of the disease. These, together with the purplish erythema often seen on the prominences of the palms and soles, are not diagnostic but are suggestive of cirrhosis.

Not the result of the cirrhosis, but probably the result of a common vitamin deficiency are the peripheral neuropathies and the skin pigmentation about the wrists and ankles sometimes seen in cirrhosis.

Often missed in cirrhosis is the presence of hydrothorax. This occurs in approximately one in ten patients and is frequently sanguinous. This should always be sought for in the cirrhotic patient as a possible source of his discomfort. The usual explanations either for the presence of pleural effusion or for its sanguinity are not quite valid. We have seen sanguinous pleural effusion when the serum albumin was normal and when the prothrombin time was normal.

The medical management of chronic liver disease is in a state of flux. Treatment is still a mixture of empiricism and scientific rationale. However, the prognosis seems to have been greatly improved in the past few years as the result of certain medical treatment.

The simplest and probably most useful treatment is that of a high protein, high carbohydrate diet. The fatty liver will improve within a few weeks upon this therapy alone, as we have seen in serial biopsy studies of the liver. We have used methionine and choline in an effort to increase lipotrophic activity, but recently have discontinued their use. Exceptions to this are the patients who will not ingest an adequate diet. An adequate diet should contain a sufficient quantity of these substances. Since many cirrhotics have little desire for food, it may be necessary to bolster the intake by supplementing the diet with liquid preparations that are high in protein content. A preparation that is useful and inexpensive is made from skimmed milk and skimmed milk powder. Two and a quarter cups of the powder mixed with twenty-two ounces of milk makes a mixture containing 130 grams of protein. If sugar and chocolate or vanilla are added for flavoring and the mixture chilled, a most palatable drink containing over 1500 calories in only one quart is prepared. Of the vitamins, A and B are probably the most important and should be given liberally. Vitamin A is synthesized in the

liver and it is likely that avitaminosis B plays a part in the pathogenesis of cirrhosis. In badly decompensated cirrhosis we give 3 to 5 cc. of crude liver extract daily for several weeks, then twice a week for an indefinite period. We have no objection to the moderate use of alcoholic beverages to stimulate the appetite in patients with cirrhosis. There is no reason to believe that a few cocktails will hurt these people.

If ascites is present, tapping may be necessary, but frequent repetition can often be avoided by the use of diuretics and salt restriction. Diuretics, however, do not work well in the presence of hypoproteinemia. The use of blood and plasma in effective amounts will hurry a diuresis and general improvement when the liver is unable to synthesize blood proteins.

The treatment of esophageal varices is a surgical problem and the results of most procedures are, at best, equivocal. Several recently described techniques, however, show promise of being of some real help in the management of this unpleasant complication.

This discussion was not meant to be complete but was an effort to point out some salient features of importance in bedside diagnosis and treatment. Further research will probably enlighten us on the pathogenesis of this disease and enable us to treat it more adequately.

Bibliotheca Obstetrica

LEVER, JOHN CHARLES WEAVER (1811-1858): Cases of puerperal convulsions with remarks. Guy's Hosp. Rep., London, series 2, 1:495, 1843.

——: A practical treatise on organic diseases of the uterus: being the prize essay to which the Medical Society of London awarded the Fothergillian gold medal for 1843. Newburgh, N. Y., David L. Proudfit, New York, Burgess and Stinger, 1845. viii, 240 p. 22.2 cm. RG301.L4

Lever was the first to report the finding of albuminous urine in connection with eclampsia. His obituary notice in the Trans. Obst. Soc. London (2:7, 1860) says that Dr. Lever affords a striking instance of the success in professional life which may be achieved by indefatigable industry combined with moderate opportunities and unaided by gifts of fortune. He was born at Woolwich and at an early age was apprenticed to Mr. Butler, a gentleman in extensive practice at Woolwich. In the course of time he entered as a student at Guy's Hospital and while a student walked daily to the Hospital from Woolwich and back . . . He gained many honorary distinctions at the annual examinations. At the end of his hospital studies in 1834 he became a member of the Royal College of Surgeons of London and took an active part in organizing the obstetrical department of Guy's Hospital. He obtained an M. D. degree in the University of Giessen and in 1842 was admitted a licentiate of the Royal College of Physicians of London. He and Dr. Oldham were appointed joint lecturers to the Lying-In Charity and the next year (1843) they were appointed obstetric physicians and lecturers on midwifery. In 1849 they were admitted together upon the staff of the Hospital, the first obstetricians to occupy such a position. Dr. Lever was at the organization meeting of the Obstetrical Society of London, December 16, 1858, but shortly afterwards was suddenly seized with a serious illness for which Dr. Addision attended him. He died December 29, 1858.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia,
Richmond, Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for January 1948 as compared with the same month in 1947, is as follows:

	January 1948	January 1947
Typhoid and Paratyphoid	10	3
Diarrhea and Dysentery	233	151
Measles	755	496
Scarlet Fever	147	163
Diphtheria	37	37
Poliomyelitis	1	4
Meningitis	8	10
Undulant Fever	7	0
Rocky Mountain Spotted Fever	0	0
Tularemia	17	16

RUBEOLA AND RUBELLA—DIFFERENTIAL DIAGNOSIS

Rubeola and Rubella, otherwise respectively known as Red and German Measles, are two distinct disease entities each having a specific etiological agent with markedly different clinical picture and relative importance. From both the medical and public health points of view it is unfortunate that the term "measles" is applied to both diseases, with diagnosis or report as one. By so doing, confusion has developed among the public, and to some extent in the medical and nursing professions, as to treatment and prevention. It is recognized that rubella occurring in early pregnancy may constitute a serious hazard to both the mother and child, but otherwise the infection is usually mild and of little clinical importance.

Because of known and unknown complications and, secondarily through fatality, rubeola may be a serious disease to the preschool child or older individuals with other disabilities. When known exposure of such groups has occurred, prevention or modification is desirable and may be achieved through use of gamma globulin* or of human convalescent and normal blood or serum. Gamma globulin may be experimentally used for preventive purposes when exposure occurs to rubella during pregnancy, but is otherwise not usually indicated.

It is therefore important to clearly establish the diagnosis and to report each case as a separate entity, and, to this end, the co-operation of all Virginia physicians is earnestly requested.

The main findings in differential diagnosis are presented as follows:

	RUBEOLA	RUBELLA
Incubation Period:		
Onset	10 days	13-15 days
Eruption	14-21 days	1 day later
Febrile Reaction	102°-104°F	99°-101°F
Respiratory Reaction	Moderate to marked nasal and pharyngeal catarrh increasing to bronchitis. Koplik's spots.	Slight pharyngeal and palatine catarrh. No bronchitis. No Koplik's spots.
Conjunctivitis	Moderate to marked.	Slight or absent.
Eruption	Appears 2-4 days after onset. Maculo-papular, brick red color. Discreet lesions becoming irregularly confluent in 24 hours. Eruption lasts 5 days and is followed by desquamation.	Appears within 24 hours from onset. Small discreet, pink macules which may become solidly confluent in 24 hours. Eruption disappears in 48 hours. No desquamation.
Adenitis	Anterior cervical	Posterior cervical, posterior auricular and sub-occipital.
Constitutional Symptoms	Moderate to marked	Slight or absent
Complications	Frequent	Infrequent

*This product is provided by the American National Red Cross and is distributed free of charge by the State Health Department.

FORUM

Correction—Digestive Symptoms Associated with Disorders Located Outside of the Digestive Tract.

TO THE EDITOR:

I received my copy of the January number of the *Virginia Medical Monthly* containing my address before the Medical Society of Virginia last Fall. In reading the article, I note that an omission of a word occurred on page 10, line 14. Since this omission gives a directly opposite meaning to what I had intended to say, I wonder if it would be possible to publish a brief correction note in a subsequent number. Line 14, page 10 reads as follows: "which are related to menstruation". This should be corrected to read "which are *not* related to menstruation". If it is not too much trouble, I would appreciate it if such a correction could be published.

W. HALSEY BARKER, M.D.

1020 Saint Paul Street,
Baltimore, Maryland.

Fellowship and Membership in the A. M. A.

In checking the information cards received from physicians, the Directory Department of the A. M. A. reports that it becomes increasingly apparent that many are not aware of the difference between "Membership" and "Fellowship" in the American Medical Association. Here are the official definitions:

Every MEMBER in good standing in the constituent medical association of the state in which he is engaged in practice whose name is officially reported to the Secretary of the American Medical Association for enrollment becomes automatically a MEMBER of the American Medical Association and is not called on, as such, to pay any dues or to contribute financially to the Association.

MEMBERS of the American Medical Association are eligible to apply for FELLOWSHIP.

To qualify as a FELLOW, a MEMBER in good standing is required to make formal application for FELLOWSHIP, to pay FELLOWSHIP dues and to subscribe for *The Journal*. Applications must be approved by the Judicial Council. Fellowship dues and subscription to *The Journal* are both included in one annual payment of $12.00, which is the cost of *The Journal* to subscribers who are not FELLOWS.

MEMBERS of constituent state medical associations pay dues to those bodies, but as MEMBERS they pay nothing to the American Medical Association. FELLOWS pay dues and subscription to *The Journal* in the sum of $12,00 a year, which has nothing to do with county or state dues.

According to an amendment to the By-Laws of the American Medical Association, no physician may be officially recorded as a MEMBER of the American Medical Association except on the basis of membership in *one* constituent state medical association, and that one the association of the state in which the physician concerned maintains legal residence and engages in the practice of medicine.

Each Fellow receives a Fellowship Card from the Association anually as payment of his dues is recorded, which card is presented for admission to the Annual Meetings of the Association.

Physicians who are eligible for Fellowship should make formal application immediately so that they may attend the Chicago Session and so that a record of their Fellowship may be received in time to include the Fellowship symbol in their data listed in the new AMERICAN MEDICAL DIRECTORY.

Positions Available in U. S. Army Medical Corps.

The U. S. Army Medical Department announces the availability of opportunities for advanced training and experience in the various special fields of medicine and surgery in overseas Army hospitals. These hospitals are registered with the American Medical Association, and this training may be acceptable by the specialty board as part of the period usually required to be spent in limited practice and experience prior to admission for examination. Interested members of the medical profession who have completed the formal training requirements for certification in one of the special fields are eligible to apply for these positions.

These locations provide excellent facilities and equipment, a wealth of clinical material and the services of visiting consultants who are outstanding specialists in the various fields of medical practice. In addition, opportunities will be afforded to observe the work of notable scientists and physicians in German and Austrian Universities.

The applicant may avail himself of this training for periods of one, two or three years. Those

applicants who are selected, and who hold reserve commissions in the Medical Corps, will usually be recalled to active duty in the highest grade attained prior to release from previous active service. Those who do not hold such reserve commissions will be tendered a reserve commission in the Medical Corps in keeping with their age, years of professional experience and prior service in any branch of the Armed Forces. Prior military service is not required. Individuals who are members of the U. S. Naval Reserve must transfer to the Army Reserve before being called to active duty. Families of married applicants will be allowed to accompany them to the place of duty. Suitable quarters are available. Families of individuals who do not declare their desire to serve for periods to exceed one year cannot be transported at Government expense.

Eligible physicians are invited to communicate with the Surgeon General, U. S. Army, Washington 25, D. C., for further information.

Inquiries should include the following information: Name; Address; Age; Nationality; Marital status; Dependents with age of each; Medical school and graduation date; Internship and date; Details of graduate training; Specialty and geographic location desired; Contemplated length of service; and Details of prior military service.

BOOK ANNOUNCEMENTS

Ulcer. The Primary Cause of Gastric and Duodenal Ulcer; Diagnosis, Medical and Surgical Treatment, Prevention. By DONALD COOK, B.A., M.D., Chicago. Medical Center Foundation and Fund, Chicago. 1947. xiii-187 pages. With 27 illustrations. Cloth.

This volume is neither a literary nor a scientific gem but it could be recommended as a medical curiosity. It is a repetitious melange of fact and "theory". The factual part derives from accepted medical literature on the subject of peptic ulcer. The "theory" is original with the author, who (if he be the only Donald Cook listed in the 1942 A. M. A. Directory) is a graduate of an institution not listed as a medical school.

According to the text the "primary cause of gastroduodenal ulcer" is mechanical. It is supposed that the lesser curvature of the stomach and the first portion of the duodenum are especially liable to a "nutcracker-like" compression between the liver ventrally and the vertebral column and pancreas dorsally. This allegedly produces, in order, ischemia, necrosis, and ulceration of the visceral wall. All operations for the relief of ulcer are good or bad, it is argued, according to whether or not they achieve a removal of the ulcer-bearing area from "the hepato-vertebral notch" or "angle". Likewise the classical Sippy regimen is effective not because of the control of gastric acidity but because the frequent feedings weight the stomach and duodenum down enabling them to escape from the grasp of the hepato-vertebral notch. The existence of etiologically important "secondary factors" is acknowledged but all are said to operate through their influence on the "primary cause of ulcer" elucidated above.

The author consigns transthoracic vagotomy to the "limbo of the ridiculous" and faintly approves unilateral vagotomy via the abdominal approach. Parenteral enterogastrone for the control of gastric secretion is said to be not as sensible as the oral use of olive oil.

All of the book is not as bad as one might expect, but just to prove how bad some of it is the following is quoted: "Married persons are further advised not to allow their sleeping mate to press or lie up against their right costal margin. It is best for the married person with ulcer to sleep on the right side in a double bed, for in this position pressure by the sleeping mate upon the left costal margin will not be harmful".

EDWARD A. DELARUE, JR., M.D.

Practical Child Guidance and Mental Hygiene. By SAMUEL KAHN, M.D., Ph.D., Adjunct Professor of Psychology and Psychiatry at Long Island University; GRACE KIRSTEN, A.B., formerly with the New York City Department on Education and Lecturer on Child Guidance; and MAY ELISH MARSH, A.B., M.A. Boston, Meador Publishing Company, 1947. 285 pages. Cloth. Price $4.00.

Congenital Malformations of the Heart. By HELEN B. TAUSSIG, M.D., Associate Professor of Pediatrics, Johns Hopkins University School of Medicine, and Director of the Children's Cardiac Clinic at the Harriet Lane Home of the Johns Hopkins Hospital. New York, The Commonwealth Fund, 1947. xxxvi-618 pages. Illustrated. Cloth. Price $10.00.

MEDICAL SOCIETY OF VIRGINIA

THE COUNCIL

February 4, 1948

The Council of the Medical Society of Virginia met at the Society's office in Richmond, February 4th, at 3:00 P. M., with the President, Dr. Guy R. Fisher of Staunton, presiding. Others present were: Drs. M. P. Rucker, W. L. Powell, Frank A. Farmer, L. J. Roper, and Councilors—Drs. R. B. Bowles, C. L. Harrell, Guy W. Horsley, J. L. Hamner, W. A. Porter, R. P. Bell, Jr., V. W. Archer, and J. P. King.

Dr. Fisher introduced Dr. Archer whom he had appointed as Councilor for the Eighth District to fill the unexpired term of Dr. J. E. Knight, deceased.

He then announced that the Councilors had been canvassed by mail as to the best date for the State meeting in Richmond and, as a result of this, the dates had been set as October 18, 19 and 20.

The President also announced that the recommendations sent the Governor from which selection should be made to fill vacancies on the State Board of Medical Examiners were:

1st District—Dr. Waverly R. Payne
Dr. S. K. Ames
Dr. Paul Pearson
4th District—Dr. W. M. Phipps
Dr. Edith I. Miller
Dr. Thos. G. Hardy

The first question for discussion was the report of the Budget Committee (composed of Drs. Horsley and Porter) as to a retirement fund for employees of the Executive Office, a matter brought forward from the October meeting. The Committee had made investigations and felt that the number of employees was too small to warrant an annuity plan of insurance. After discussion, the Committee was instructed to investigate this matter and report at the next meeting of the Council, the final disposition to be left to the judgment of the House of Delegates. Motion to this effect was passed.

The executive secretary-treasurer reported that she felt from $10,000 to $15,000 of the Society's funds should be invested so as to be readily accessible if needed, rather than remain in the checking account. Dr. Harrell moved that this be left to the discretion of the President and the Budget Committee. Seconded and passed.

In connection with financial affairs, Dr. George Cooper, Jr., Chairman of the Cancer Committee, had advised that the special appropriation allowed by the Council at the Roanoke meeting for expenses of Dr. Charles F. Branch, incident to attending the Cancer Committee meeting at that time, had been paid by the American College of Surgeons, as his attendance at the Virginia meeting was felt to be part of his regular work.

Dr. Fisher said that at the last meeting of the House of Delegates, Dr. Hundley, Chairman of the Medical Economics Committee, in making his report had made the statement that the Council should discuss the question of discontinuing this Committee as he felt it had "worked out of work", and matters previously handled by the Committee might now be cared for by the Public Relations Committee. It was stated this had been a very active committee in the past and there might be special work for it in the future. In view of this, it was moved by Dr. Harrell and seconded that it should be continued. Adopted.

Another matter referred to this meeting was a resolution presented the last House of Delegates: That the Council be directed to consider the advisability of revising the procedure of the House of Delegates, and that they carry on the study either through their own body, or by a special committee appointed by the Council; and that this be set up for the next meeting of the House of Delegates.

It was moved that the President appoint a committee of five from the Council to cooperate with the Program Committee and arrange a program so there will be no overlapping of sessions of the House of Delegates with the scientific sessions, and that they make recommendations for expediting proceedings, especially in the case of controversial discussions. This was passed and it was also suggested that committees be asked to submit reports in time for them to be published well in advance of the meeting so copies may be sent delegates before they leave for the meeting.

Dr. Fisher appointed Drs. Archer, Farmer, Hamner, Horsley and Bell as the committee of five to cooperate with the Program Committee.

Mr. Winfrey, representing the Connecticut General Life Insurance Company, was then asked to appear before the Council to tell the status of the group life insurance for members. He said that only a little over 600 doctors with their employees had enrolled and it was a disappointment to the Company that the group was not completed. It would take at least 1,200 enrollments to comply with the State law. Were one or two to bring this to the attention of the local society members, as a few had already done, he felt it should be of assistance in securing the required number. The Company planned to send another letter to members early in February and would extend the time to March 1st. He then offered the following new plan from the Company which might make it possible to secure the quota more easily:

New members coming into the State Society during their internship or residency will not be required to participate in the Group Life Plan until they shall have engaged in the private practice of medicine for a minimum of one year. When this qualification has been met they are expected to participate in the plan on the following basis:

Amount of insurance for the first year—$1,000.00
And, for each succeeding year $1,000.00 of additional insurance until the maximum amount available on the group plan has been reached. No medical examination or evidence of insurability for the increases available under this offer will be required.

Under new business, the following letter from the Albemarle County Medical Society was presented:

TO THE COUNCIL OF THE MEDICAL SOCIETY OF VIRGINIA:

I am enclosing a self-explanatory letter to the druggists of Albemarle County. I am instructed by the Albemarle County Medical Society to submit this problem for your consideration. It may be that the same situation exists in other parts of the State.

The Albemarle County Medical Society has instructed me to write to all druggists of Charlottesville and Albemarle County, drawing to their attention the fact that the practice of refilling prescriptions for dangerous drugs, at the request of a patient but without direction from his physician, is in violation of the Virginia Dangerous Drug Law. Section 1698 A, B, C, D, and E, dealing with this matter, was approved March 13th, 1942. Barbiturates and sulfa drugs are classified as "dangerous." The attention of the Society has been called to an instance in which sulfanilamide poisoning caused death. The drug was taken without the physician's knowledge over a period of months, and was obtained by a prescription which the physician had not ordered refilled. Similarly, a sodium amytal addict was found to be obtaining an unlimited supply of the drug by a prescription which the physician had not ordered refilled. The Society has found that the unfortunate practice of refilling such prescriptions is followed by over half of the druggists in this locality. The Society is sure that the practice has grown up without an appreciation of its consequences, and that this letter will end the matter. However, the Society must warn that, if the practice is not terminated, the Society will be obliged to take further action.

GEORGE COOPER, JR., M.D.
Secretary

November 18, 1947

Dr. Archer said that this letter was mailed to druggists in Albemarle and adjoining counties. It was decided that a copy should be sent to Mr. A. L. I. Winne, executive secretary of the Virginia Pharmaceutical Association, with the request that they might look into this practice of refilling dangerous prescriptions without a prescription from a physician, have a copy of the law sent all drug stores and, if necessary, have the Attorney General see that the law is enforced. This being put as a motion was adopted.

Dr. Fisher said that at a recent conference there had been some discussion of an essay contest for public school children in regard to health matters. The Woman's Auxiliary of the West Virginia State Medical Association had conducted such a plan, it being felt this would be a way to reach and educate a number of parents through their children. He had asked Mrs. DeCormis, President, if the State Auxiliary would be interested in sponsoring such a project, and he read the following letter in reply:

TO THE COUNCIL:

I brought the essay contest suggestion back from National last year. So far we have not been able to sell it to our members.

This year we are trying to place *Hygeia* in all the high schools in Virginia; at least that is our goal.

My idea was to have the high school pupils participate in a contest on material taken from *Hygeia*. In this way they could familiarize themselves with health problems.

I shall try to work on that this year and perhaps by next year we can put it over with a bang.

MABEL LEWIS (MRS. J. L.) DECORMIS

It was moved that this suggestion might be presented to the Auxiliary again at its next meeting.

For the information of the Council, the President said that Garrett and Massie, publishers of Medicine in Virginia in the Eighteenth and in the Nineteenth Century, had advised recently they had received an offer from a New York publisher to take over what stock they had in these two books at $1.00 per copy, and, before closing the deal, they had written the Society to offer some of the books at same price. He had requested the secretary to have Dr. Roshier Miller decide what should be done. In view of storage space, Dr. Miller felt that the Society could take only fifty copies of each volume for re-sale, and he had authorized the purchase of these.

The secretary presented a letter from Dr. Harry B. Taylor, received through Dr. C. J. Andrews of Norfolk, asking if it were possible for him to secure membership in the Medical Society of Virginia. Dr. Taylor, a native of Norfolk, is an alumnus of the University of Virginia, class of '02, and is at present a medical missionary at St. James Hospital, Anking, China. Dr. Harrell said that the Norfolk County Medical Society has an application for membership from Dr. Taylor and, when admitted to that Society, he will automatically be eligible to membership in the State Society, so it was felt no action was necessary on the application at this time.

Dr. King was asked to look into the application of a doctor in his district for remission of his dues as a medical missionary.

A request for financial assistance had been received from the National Society for Medical Research, the program for which is supported by the contributions of medical college, dental colleges, scientific societies, commercial concerns, and individuals. Dr. Archer said this organization is doing excellent work and the University of Virginia had made a contribution toward its support. It was then moved by Dr. Bell, seconded and carried, that this Society give the organization $100.00, this to be taken from the President's contingent fund, which had Dr. Fisher's consent.

Recess was taken for dinner, following which the Council re-convened to talk over medical matters now before

the General Assembly of Virginia. It was learned that the chiropractors and naturopaths had presented bills—S. 102 and H. 119—in this session of legislature, relative to admission for practice without complying with provisions of the act passed by the General Assembly in 1944. In view of this, the following preamble and resolutions were unanimously adopted:

WHEREAS, under the Medical Practice Act of 1944 ample provision is made for chiropractors and naturopaths to obtain licenses prior to January 1, 1950, by passing the regular examinations given new applicants, or by taking a simple examination on five subjects given by an impartial special board created for the purpose; and

WHEREAS, these practitioners registered for these examinations in 1944 and may take them at any time prior to December, 1950, under the protection of the provisional licenses which they obtained for that particular purpose; and

WHEREAS, these groups have presented to the General Assembly of 1948 companion bills which if passed will enable 126 chiropractors and naturopaths to obtain full licenses without passing any examination adequate to determine their competency; now therefore,

BE IT RESOLVED by the Council of the Medical Society of Virginia this 4th day of February, 1948, at Richmond, Virginia, that we declare it to be the considered opinion of more than 2,000 members of the Medical Society of Virginia that no man should ever again be admitted to licensed practice in any branch of the Healing Arts in the State of Virginia until he has established his competency by a proper examination; and

BE IT FURTHER RESOLVED that the Medical Society of Virginia earnestly requests the General Assembly to reject Senate Bill 102 and House Bill 119, and thereby reaffirm its established policy that admission to licensed practice in the Commonwealth of Virginia can only be had through proved competency in the field of medical care.

At this time, a vote of thanks was given Mr. Duval, Mr. Johnson, and the Legislative Committee for the splendid work they are doing for the Society in legislature.

There had been talk of meeting the Governor's budget by combining the Department of Mental Hygiene and Hospitals with the Welfare Department. The Council felt that the Department of Mental Hygiene and Hospitals should not be placed under the Welfare Department, but he continued as it is and be headed by a medical man.

Dr. Fisher read the following letter from Dr. Joseph E. Barrett, Commissioner of the Department of Mental Hygiene and Hospitals:

TO DR. FISHER:

The Department of Mental Hygiene and Hospitals, in cooperation with the Committee on Psychiatry in Education of the American Psychiatric Association, and the U. S. Public Health Service, is planning a two-weeks seminar on Psychiatry and related subjects in the early part of April. The Program Committee is working on this project, which we hope to have financed from funds now available by the U. S. Public Health Service.

I thought it might be well if the State Medical Society could be listed as a participating agency in connection with this seminar.

Would you please let me hear from you regarding this subject?

JOSEPH E. BARRETT, M. D.,
Commissioner

It was approved that the Society be listed as a participating agency in connection with this seminar.

Dr. Charles Outland, chairman of the local committee for arrangements of the Richmond meeting, was asked to tell of the plans of his committee. He said he had nothing to tell at this time but did wish to ask some questions, following which there was a discussion as to plans for handling the scientific sessions and housing the exhibits.

Some suggestions offered were that the morning sessions should be scheduled for 9:00 A. M., and that there should be no sections. Also, exhibitors would be asked to have no cocktail parties when the meetings are going on. As soon as a paper is accepted, Dr. Archer, chairman of the Scientific Exhibits, should write the author to see if he wishes an exhibit in connection with his paper. It was also felt the Program Committee should arrange definite hours for members to visit scientific and technical exhibits, so those in charge might be on hand to answer questions. Dr. Archer thought it would add to interest were certificates presented for the best exhibits and these should be judged on the first day by a secret committee of three to be appointed by the President-Elect, and awards made then.

There being no further business, the Council adjourned.

AGNES V. EDWARDS,
Secretary.

Approved:
GUY R. FISHER,
President.
February 14, 1948.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... MRS. J. L. DECORMIS, Accomac
President-Elect ..... MRS. R. M. REYNOLDS, Norfolk
Recording Secretary ..... MRS. M. H. HARRIS, West Point
Corresponding Secretary MRS. HOLLAND TROWER, Eastville
Treasurer ..... MRS. REUBEN SIMMS, Richmond
Parliamentarian ..... MRS. E. LATANE FLANAGAN, Richmond
Historian ..... MRS. H. A. LATANE, Alexandria

Norfolk Auxiliary.

The Annual Public Relations Meeting of the Auxiliary to the Norfolk County Medical Society was held January 27th, in the Medical Arts Library, with Mrs. K. W. Howard of Portsmouth, presiding. This is the meeting to which women from the various civic organizations are invited, the idea being to help foster better public relations and a greater understanding between the doctor and the public.

Dr. N. F. Rodman, speaking on "Social Trends in Medicine", was introduced by Mrs. Southgate Leigh, Jr., the Chairman of the Public Relations Committee. In introducing Dr. Rodman, Mrs. Leigh said his positions on the various hospital staffs and the fact that he was the past President of the Norfolk County Medical Society was well known, but the fact that he is a member from the Second District of the Public Relations Council of the Medical Society of Virginia and a member of the Rehabilitation Committee of the State Board of Education made his talk of greater interest as the Auxiliary is quite interested in medicine from the standpoint of public relations.

Dr. Rodman began by saying that the time was drawing near when a decision would have to be made whether each community would look after itself, or let the Federal Government do it. The various persons who are advocating compulsory health insurance plans are sincere in their beliefs, he said, and they argue that medical care today is too high and it is inadequate. These two charges Dr. Rodman examined and explained with reasonable figures that presented a different picture. As far as the cost of medical care being high, he cited the year 1945 when 149 billions were spent by the American people. Of this sum, 5 went for medical care and 7.8 went for alcohol. 5.8 was spent on recreation and 2.9 on tobacco, etc. So, comparing these with the amount spent on medicine, he did not think in the over-all picture one could say that medical costs were unreasonable. Of course, when a severe lingering illness strikes, any expense is high if provisions have not been made to meet this emergency. The Blue Cross and Blue Shield plans are excellent ways to provide protection for such catastropic illnesses, but few avail themselves of these. These have proved to be the most reasonable plans developed.

The charge that medical care is inadequate can not be refuted in many instances, and there are several ways to help this situation. To meet the need for new hospitals or additional hospital beds, etc., there are funds available through the Hill-Burton Act whereby a community can secure one-third of the money from the Federal Government if the state and local governments will put up the other two-thirds. Virginia has 2.2 millions on which to draw. With the cost per bed now estimated at $14,000., many of the rural areas will be unable to raise their one-third. It will be the responsibility of the state to give more aid to these localities. Dr. Rodman went on to say that there is a desperate need now for 50 neuro-psychiatric beds and 50 surgical tuberculosis patients. The local one-third should be raised easily, but it will be necessary to turn to the Federal and State Governments for the additional funds to secure these beds. In fifteen years, Norfolk will need 800 new general hospital beds.

Many rural areas do not have doctors, and medical care is inadequate there. But, when you consider the cost of his education, the great time it takes to become a doctor, etc., it is not hard to see why the young doctor does not go to these sparsely populated areas where he finds none of the facilities he has been taught to use in the practice of medicine.

Some states have sought to remedy the situation by paying the expenses of medical students on the promise from them that they will practice medicine for several years in the doctor-less areas. This plan, said Dr. Rodman, is one that Virginia could consider. It is in operation in North Carolina now.

Coming to the federal plans of Compulsory Health Insurance again, Dr. Rodman said these were all his views, and not the views of the Nor-

folk County Medical Society necessarily, but he would like to say that no country that had ever adopted such a plan had been able to keep it within the estimated cost. It has been at least double in every case, and in Germany, it cost 100 times more than it was supposed to cost. He also brought to attention that every totalitarian country has had this plan. Bismarck, the first to advocate such a plan, did so because he thought it the best way to control the people. Lenin is supposed to have said "Compulsory Health Insurance is the keystone of Communism". It is a known fact that the quality of medical care has deteriorated in the countries that have tried such plans. There is no reason to believe it would be materially different in our own country should we adopt any of the plans presented to our Congress, judging from the provisions or these bills submitted.

Mrs. Howard made several announcements about the standing of the local organization in regards to the number of subscriptions of the *Bulletin* and *Hygeia* secured by Mrs. Foscue Brock and Mrs. A. L. Kruger.

She announced that the Norfolk County Medical Society Auxiliary was well represented at the State Board Meeting in Richmond on January 20th. Those attending were Mrs. R. M. Reynolds, State President-elect; Mrs. C. M. McCoy, Program Chairman; Mrs. C. H. Lupton, Immediate Past President; Mrs. K. W. Howard, President of the Auxiliary; Mrs. M. S. Andrews, President-elect; and Mrs. J. R. St. George, Vice-President of the Auxiliary.

The Auxiliary voted to "adopt" a doctor at the Blue Ridge Sanitorium for one month through contributions to the Leigh-Hodges-Wright Memorial Fund.

April 27th has been announced as the date for the annual auxiliary luncheon.

Dr. Rodman gave this same talk over the radio station W.G.H. on the program *Freedom is Our Business* on the night of January 27th. This, too, was arranged by the Public Relations Committee of the Woman's Auxiliary with Mrs. Southgate Leigh as chairman.

PATTIE ALSTON BOUNDS SELLERS
(Mrs. W. P.)

More Cancers Found.

A nine-months' survey of cancer detection centers in one state shows that 10 to 15 times as many cancers are being discovered in male examinees, and twice as many in females, as would be expected from the general cancer prevalence rates by sex and age. These facts are revealed in a report by Howard W. Jones, Jr., M.D., and W. Ross Cameron, M. D., Baltimore, in the December 13 issue of *The Journal of the American Medical Association.*

The two doctors state that from November 1, 1946 to July 31, 1947 a total of 1,709 persons were examined in cancer detection centers in Maryland, 336 being men and 1,373 women. By means of the expected prevalence and detectability rates only 0.56 case of cancer would have been anticipated in the male and 4.9 cases in the female examinees. Actually eight cancers were found among the men and nine among the women.

Although a cancer detection center represents a casefinding clinic to which only persons who are free from cancer symptoms are supposed to be admitted for examination, the writers suggest that a high proportion of the patients come to such centers because of minor complaints or because of the occurrence of cancer in their immediate families. They are therefore not a true cross section of the population as a whole.

"An incidental, but important finding," the doctors also write, "was that 36 per cent of men and 51 per cent of women examinees were referred to their physician because medical or surgical conditions other than cancer were discovered."

EDITORIAL

Scientific Exhibits

THOSE of us who have attended large national meetings in the past few years have been impressed with the increasing emphasis laid on the *Scientific Exhibits.* The exhibits are stressed in the programs, are given prominent places in the floor layout, and awards are given.

Those of us who have exhibited at national meetings realize that if we have a "story" to put across, one of the very best ways to accomplish this is through a *Scientific Exhibit.* During the course of the meeting, practically all in attendance will go through the exhibit, examining carefully those which are of particular interest. Definite schedules are printed in the programs stating the periods during which the exhibitors will be present at their exhibits, so that those interested in a particular exhibit will have an opportunity to hear the exhibitor give his "story", and then can ask questions.

In the past, space limitations, and lack of equipment, have hampered the progress of the *Scientific Exhibit* at the annual meetings of the Medical Society of Virginia. Certain steps are now being taken to remedy this situation. The House of Delegates has appropriated $1,000 for additional scientific exhibit equipment and from this fund illuminating frames for transparencies have been purchased. The lack of these frames has been a great deterrent to prospective exhibitors in the past, since each exhibitor had to furnish his own viewing boxes. Additional equipment will be purchased as needed. Very attractive ample space in the John Marshall Hotel has been allocated this year, providing the best space for the exhibits in recent years.

Adequate, well-situated space ordinarily is still somewhat of a problem due to the custom of having the entire State meeting housed in one hotel. There are very few hotels in Virginia which can adequately house the Scientific Exhibits, the commercial exhibits and the meeting rooms. Your *Scientific Exhibit Committee* is working with the various officers of the State Society in an attempt to remedy this. It has been suggested that the meetings and exhibits be housed in armories, or in other similar buildings, as is done in the larger meetings. This, of course, would entail rental of additional space, but the increased number of paying commercial exhibits would partially offset this.

Definite periods of time for viewing the exhibits will be incorporated in the printed program, and all exhibitors, or their representatives, will be requested to stand by at their exhibits during these periods.

Another move aimed at stimulating interest on the part of prospective exhibitors is the institution of awards for the exhibits judged best by an *Awards Committee.* Three awards will be made at the public meeting on Monday night. The Awards Committee is secret, being appointed by the President-Elect.

It is sincerely hoped that there will be added interest in the *Scientific Exhibits* which should form such a valuable part of every medical society meeting. If possible, each person writing a paper to be presented before the Society should prepare a scientific exhibit in addition. The exhibit does not have to be at all elaborate. One of the exhibits winning a gold medal at a recent A. M. A. meeting consisted of only a few placards and some test tubes. If an essayist feels that he has material justifying its presentation before the meeting in the form of a paper, he should be prepared also to answer questions pertaining to this paper. Time does not permit much general discussion from the floor and there are many minor questions which arise which are of interest only to an individual, hence they remain unasked. All in attendance at

the meeting will know that the essayist, if he has an exhibit on the same subject, will be at the exhibit during the specified periods, and can answer these questions. The programs will carry notations concerning the associated exhibits along with the regular listing of the papers.

All members contemplating the presentation of papers at the 1948 meeting of the State Society are urged to communicate with the *Chairman of the Scientific Exhibit Committee,* Dr. V. W. Archer, Box 1637, University Station, Charlottesville, Virginia. Members having worth-while material to exhibit without a paper also are urged to communicate with the committee before August 1st, so that proper space may be reserved.

THE MEDICAL SOCIETY OF VIRGINIA NOW HAS VIEWING BOXES AND OTHER EXHIBIT EQUIPMENT.

V. W. ARCHER, M.D.

Wholesale and Retail Medicine

AT a conference last Fall Dr. Roper referred to public health medicine as wholesale medicine. In some ways the reference is quite apt. The health officer deals with people *en masse.* For instance Dr. Allen Freeman entitled his recent autobiography *Five Million Patients.* In contrast the private physician deals with individuals. If you try to extend the analogy further it breaks down. In business the wholesaler endeavors to increase retail business, for the greater the retail sales the greater the wholesale sales. In medicine public health workers endeavor to reduce sickness to a minimum. The more efficient the public health administration the less sickness the private physician has to deal with.

Just now we are confronted with a strange spectacle. Virginia is attempting to perfect its public health organism, wholesale medicine if you please, and the United States Government is trying to pass a law to permit it to engage in a vast and expensive system of retail medicine. A stranger spectacle is that our newspapers oppose the relatively cheap and effective wholesale medicine on the ground that it is too costly, and endorse retail medicine at the Federal level which would cost Virginia tax payers much more money.

The State Health Department is asking for an increase in its appropriation for three main objects; (1) to increase the number of local health officers so that the whole State will have adequate health services; (2) to enlarge and modernize hospitals for the care of mental diseases; (3) to make adequate provision for the cure and care of tuberculous patients. There was a time when tuberculosis and mental diseases were considered hopeless. Not only was recovery very unusual, but the course of these diseases was so long drawn out that the care of these patients was beyond the means of all but the very wealthy. Modern treatment, especially if begun early, cures many of them and they thereby cease to be a public charge. Instead of being consumers of taxes they become tax payers. Therefore the increase in the State Health Department budget would, in the long run, save money, to say nothing of the saving of lives. It is cheaper to cure these patients and prevent new cases than it is simply to care for them.

In contrast the proposed Federal project of retail medicine has nothing to recommend it from the standpoint of economy. President Truman is demanding that Congress provide this country with Compulsory Sickness Insurance. Instead of preventing sickness, it pays people to be sick. It not only provides free hospital, nurses and doctors, but gives the patient a cash bonus. The cost is estimated to be 300

billion dollars for the first year. In countries, such as New Zealand, where such plans have been tried the actual cost has been many times greater that the estimated cost. This huge sum is to be raised by payroll deductions and a tax upon industry supplemented by Federal funds. This country is already short on hospital beds, nurses and doctors. If the government pays people to be sick, one wonders where and how they will be taken care of. We have said nothing of the deterioration of medicine. Medicine has deteriorated in every country that has tried such a plan. It cost Germany its supremacy. This cost in dollars and cents is a very real one, although not so obvious as the 300 billion dollars of estimated cost. Nevertheless it is vital.

Our newspapers are opposed to spending more money on public health at the state level but sanction, at least tacitly, Compulsory Sickness Insurance at the federal level. Maybe they think that the money comes from Washington and will not cost Virginians anything. However the pay roll deductions, the tax on industry and the Federal taxes would become very real if such a federal law were enacted, and then it would be too late to do anything about it. One of the strongest arguments for Compulsory Sickness Insurance is that the States are doing nothing for the health of their citizens. If the State Health Department is adequately provided for, there is less chance of Compulsory Sickness Insurance passing Congress. Personally, we would rather spend our Virginia tax dollar for the prevention of sickness, than to have to spend our hundreds of Federal tax dollars for politically administrated medicine.

William Lowndes Peple, 1875-1948

ON February 7th, the most beloved Richmond Surgeon, died at his home, 1209 West Franklin Street. Born in Manchester, Virginia, December 5, 1875, of a family all the members of which were noted for intellectual achievements, he attended the public schools of Manchester and Richmond. He graduated in Medicine at the University College of Medicine in 1897 and served his interneship at St. Luke's Hospital at the time that Dr. Hunter McGuire was at the height of his fame. He was identified with St. Luke's the rest of his life. At the time of his death he was the senior surgeon of St. Luke's Hospital and Emeritus Professor of Clinical Surgery at the Medical College of Virginia. During the first World War he was Chief Surgeon of Base Hospital 45.

Dr. Peple was a sound surgeon and devised many useful implements which were widely adopted. One of these was an operating table for infants, which was placed on the top of the ordinary operating table. It not only raised the tiny patient so that he was not lost among the drapery, but it had a receptacle for a hot water bottle so that one could guard against an undue loss of body temperature during an operation.

He took an active part in the Richmond Academy of Medicine and in the Medical Society of Virginia. He was an ex-president of the Academy and served on many important committees in both societies. It was always a great pleasure to serve on a committee with him for it gave one an opportunity to enjoy his wit and wisdom to the utmost. As a raconteur he had few equals. Years ago when the Pi Mu Fraternity held a national convention in Richmond, Dr. Peple high-lighted the meeting with his anecdotes. He held extra-curricular sessions in the basement of the old Westmoreland Club and his supply of stories was inexhaustible.

Dr. Peple was a fellow of the American Medical Association, the Southern Medical

Association and the Tri-State Medical Association of the Carolinas and Virginia. He was the president of the latter in 1925.

His last paper, "Enterogenous Cysts of the Duodenum, with Report of a Case Which is Most Unusual, if not Unique", was read before the Southern Surgical Association last December. Dr. Peple was ill at the time and could not be present. Dr. Peple's case was unique in that his patient was an adult, but the occasion was interesting to us because of the evident esteem these surgeons had for the author.

SOCIETIES

Virginia State Board of Medical Examiners.

At the meeting of the Board held December 4-6, 1947, the following were granted certificates to practice in Virginia:

Dr. Vance Thompson Alexander, Arlington.
Dr. Samuel K. Ashby, Norfolk.
Dr. Richard Tuberville Arnest, Oldhams.
Dr. Janie Maryleen Bailey, Rich Creek.
Dr. Cecil Cooper Bell, Jr., Kecoughtan.
Dr. Robert E. Bishop, Norfolk.
Dr. Reba Noelle Gwyneth Bliss, Norfolk.
Dr. Theodore Bliss, Norfolk.
Dr. Percy A. Bryant, Bay Minette, Ala.
Dr. Josephine Jordan Buchanan, Richmond.
Dr. James Butcher, Richmond.
Dr. Joseph Thomas Byrne, Richmond.
Dr. Curtis W. Caine, New Orleans, La.
Dr. Neil Callahan, New York, N. Y.
Dr. Stephen Childrey, Norfolk.
Dr. Clyde Mabry Collins, Appalachia.
Dr. Gerhard Cotts, Colony.
Dr. Frank Joseph Curran, Charlottesville.
Dr. Monford Daniel Custer, Jr., Winchester.
Dr. James Gillespie Dickson, Hot Springs.
Dr. Ernest Malcolm Dixon, Charlottesville.
Dr. Howard Alexander Donald, Washington, D. C.
Dr. Frederick Denton Dove, New York, N. Y.
Dr. Thomas Joseph Dugan, Jr., Washington, D. C.
Dr. Isaac Cooper East, Williamsburg.
Dr. Everett Carroll Eickhoff, Newport News.
Dr. James Paul Elkins, Norfolk.
Dr. Frances A. Ford, Winchester.
Dr. Lester I. Fox, Arlington.
Dr. Newland W. Fountain, Roanoke.
Dr. William L. Foster, Augusta, Ga.
Dr. Myron Harrison Green, Lynchburg.
Dr. Boyd Withers Haynes, Jr., Richmond.
Dr. William Samuel Hooten, Lynchburg.
Dr. Robert Clarence Hunt, Fairfax.
Dr. Thomas Gray Hurdle, Hampton.
Dr. Sidney Isenberg, Richmond.
Dr. Chester Earle Johnson, Jr., Staunton.
Dr. Harold Keen, Clinchco.
Dr. Walter O. Klingman, Charlottesville.
Dr. Leon Moses Kruger, Logan, W. Va.
Dr. Richard Henry Laning, Amherst.
Dr. George Calvin Lawrence, Greensboro, Ga.
Dr. Edward David Levy, Norfolk.
Dr. Stuart Hinman Light, New Orleans, La.
Dr. Sidney W. Lowry, Washington, D. C.
Dr. Chester P. Luxwiler, Hampton.
Dr. Gerald Hugh McAteer, Washington, D. C.
Dr. Francis Nichols McDonald, Arlington.
Dr. Edward Allen McEver, Bonny Blue.
Dr. John Davis Middlemas, Woodberry Forest.
Dr. Clarence Fisher Morrison, Philadelphia, Pa.
Dr. Edward G. Naslund, Luray.
Dr. George Maynard Nipe, Dayton.
Dr. Robert Lansing Norment, Arlington.
Dr. James Lee Pipes, Dunbar.
Dr. Charles D. Prather, Leesburg.
Dr. Robert Douglas Ralph, Vienna.
Dr. Dina Braude Rappaport, Arlington.
Dr. Robert Arthur Richards, Charlottesville.
Dr. Francis Regis Riesenman, Washington, D. C.
Dr. Ella Pendleton T. Robeson, Hampton.
Dr. William Laird Sager, Ft. Slocum, N. Y.
Dr. Mary K. Sartwell, Washington, D. C.
Dr. Eugene David Schwartz, New York, N. Y.
Dr. John Norman Shadig, Washington, D. C.
Dr. Robert James Smith, Rich Creek.
Dr. Joe Bill Spaulding, Raven.
Dr. Herbert W. Swertfeger, Hopewell, N. J.
Dr. Herman I. Switkes, Hampton.
Dr. Elmer W. Sydnor, Jr., Jefferson City, Tenn.
Dr. Charles Henry Townes, Petersburg.
Dr. Harold E. Troup, Williamsburg.
Dr. Kenneth V. Tyner, Leaksville, N. C.
Dr. Joseph Lamar Whatley, Marshall.
Dr. Warren Seymour Wilkins, Hampton.
Dr. Grover Cleveland Wrenn, Roanoke.
Dr. Alvin Charles Wyman, Alexandria.
Dr. Charles Merriwether Zacharias, Richmond.
Dr. Francis L. Zinzi, Arlington.

Alexandria Medical Society.

At its regular monthly meeting in February, the Society was addressed by Dr. Lent Johnson, of the Army Institute of Pathology, whose subject was "The Dynamic Pathology of Eclampsia". Newer concepts into the etiology and understanding of this disease were brilliantly presented by this very able investigator.

GEORGE SPECK, M. D.,
Secretary

Danville-Pittsylvania Academy of Medicine.

New officers of the Academy are: President, Dr. Prentice Kinser; vice-presidents, Drs. W. E. Overcash and G. V. Thompson; and secretary-treasurer, Dr. Clayton Brantly, Jr.

Lynchburg Academy of Medicine.

Dr. Porter P. Vinson, of the Medical College of Virginia, Richmond, was the guest speaker at the regular meeting of the Academy on February 9th, his subject, "Diaphragmatic Hernia", proving quite interesting.

At the short business session, Dr. William S. Hooten of Lynchburg, and Dr. J. E. Pisano of Brookneal were elected to active membership.

Dr. H. L. Riley and Dr. John T. T. Hundley, both of Lynchburg, are president and secretary, respectively.

Medical Society of Northern Virginia.

The annual meeting of this Society was held in Woodstock on December 9th, with the President, Dr. D. M. Kipps, presiding. There was an attendance of fifty members. The following program was presented: "Imperforate Anus" by Dr. L. J. Hansbrough; "Carcinoma of the Bladder" by Dr. G. W. Parrott; "Surgery for Pyometra of Long Standing" by Dr. E. M. Cover; "Ocular Emergencies" by Dr. W. P. McGuire; "Protruded Cervical Intervertebral Disk Simulating Heart Disease" by Dr. C. L. Gossels; and "Early Ambulation in Surgical Patients" and a moving picture on "Herniorrhaphy" by Dr. E. T. Trice, Richmond, who was invited guest. Dr. Harold Miller also gave observations on the State Medical meeting.

Officers elected for 1948 are: President, Dr. C. H. Iden, Berryville; vice-president, Dr. Harold W. Miller, Woodstock; and secretary-treasurer, Dr. F. D. Maphis, Jr., Strasburg.

Virginia Peninsula Academy of Medicine.

At the meeting on February 16th, there was an attendance of sixty-two. The guest speaker was Dr. Donald F. Proctor, Baltimore, his subject being on the use of radium in throat conditions.

Dr. Paul Hogg is president of the Academy and Dr. Chester D. Bradley secretary-treasurer. Both are of Newport News.

Richmond Academy of Medicine.

The Section on the History of Medicine was host to the Richmond Academy of Medicine at its meeting on February 10th. Dr. H. J. Warthen, Jr., president of the Section, was chairman. The following program was presented: "The Green-Tin Case" by Dr. Sidney G. Page; "Attempted Re-creation from an Old Notebook" by Dr. Thomas W. Murrell; and "James Thacher and his Influence on American Medicine" by Dr. Henry R. Viets, invited guest of Boston, Massachusetts.

The officers for next year are Dr. Arthur S. Brinkley, chairman and Dr. Ennion S. Williams. secretary-treasurer.

Roanoke Academy of Medicine.

At the meeting of the Academy on February 2nd, the following program was presented following a business session:

Extra-uterine pregnancy with unilateral twins—Dr. Chas. W. Dorsey.

Term pregnancy complicated by ovarian cyst with twisted pedicle—Dr. Algie Davis.

Placenta Acreta—Dr. Julian H. Meyers.

The use of apomorphine and hyoscine as an obstetrical amnesic and analgesic—Dr. A. M. Groseclose. All speakers are of Roanoke.

Dr. Charles M. Irvin is president of the Academy, and Dr. Ira Hurt secretary.

The Tazewell County Medical Society,

At its annual meeting on November 13th, elected the following officers for 1948: President, Dr. H. A. Porter, Boissevain; vice-president, Dr. Rufus Brittain, Tazewell; and secretary, Dr. William R. Strader (re-elected), Richlands.

Several new members have joined this society recently.

NEWS

Medical Society of Virginia.

As previously stated, dates for the annual meeting of the Medical Society of Virginia are October 18, 19 and 20, and the John Marshall Hotel is to be headquarters. Although there should be ample hotel accommodation in Richmond, members are urged to make reservations promptly at hotels of choice.

The Local Committee of Arrangements named by the Richmond Academy of Medicine is headed by Dr. Charles L. Outland as general chairman. He will be assisted by the following:

Scientific Exhibits—Dr. W. Ambrose McGee
Commercial Exhibits—Dr. Harvey B. Haag
Entertainment—Dr. Rex Blankinship
Hotels and Meeting Halls—Dr. Ben Rawles, Jr.
Finance—Dr. T. Dewey Davis
Ladies—Mrs. Luther C. Brawner

Dr. Archer New Councilor.

Dr. Vincent W. Archer, University of Virginia, has been named by Dr. Guy Fisher, President, as Councilor for the Eighth District of the Medical Society of Virginia, to succeed Dr. J. E. Knight, deceased.

Appointments on Committees.

Dr. E. M. Holmes of Richmond has been appointed as an additional member of the Venereal Disease Control Committee of the Medical Society of Virginia, and Dr. John H. Guss of Staunton has been appointed a member of the Department of Clinical and Medical Education, succeeding Dr. Julian L. Rawls, deceased.

The Cancer Problem—A Symposium on its Diagnosis, Control and Treatment.

The Department of Continuation Education and the Department of Oncology of the Medical College of Virginia, in conjunction with the medical faculty of the University of Virginia, and the cooperation of the Department of Clinical and Medical Education of the Medical Society of Virginia, announces a SYMPOSIUM ON MALIGNANT GROWTH, to be held at the Medical College of Virginia, the week of March 22 through 27.

Discussions covering the entire field of the Cancer Problem will be presented. Advances in the field of Research, Diagnosis, Control and Treatment will be given by national leaders in their respective fields.

There will be lectures, clinics, and demonstrations covering problems of cancer of each system, with emphasis on the generative tract, the gastrointestinal tract, respiratory tract, skin and bone. The program will be of interest to general practitioners and specialists alike. The Committee on arrangements have been fortunate in securing the services of well-known experts to address the audience on many aspects of the varied problems. A detailed program of the course will be forwarded to you shortly. Please make your arrangements to attend. The local hotels have reserved rooms for the visiting physicians who desire same. If these are desired, please write the Department of Continuation Education, Box 94, Medical College of Virginia, Richmond, Virginia.

A partial list of speakers who will appear on the program includes Dr. C. P. Rhoads, Director of Memorial Hospital, New York; Dr. Jos. C. Aub, Professor of Research Medicine, Harvard University, School of Medicine; Dr. Harry S. N. Greene, Professor of Pathology, Yale University; Dr. Roscoe Spencer, Director of Professional Training, National Cancer Institute; Dr. Charles S. Cameron and Mr. Douglas Poteat of the American Cancer Society; Drs. Wiley D. Forbus and Robert W. Reeves of Duke University; Dr. Harold L. Stewart, National Cancer Institute; Dr. Peter A. Herbut of Philadelphia; Dr. Nathan B. Eddy of the National Research Council; Dr. Aubrey Hampton of Washington, D. C.; Drs. James C. Amersbach, Maurice M. Black, and Guy F. Robbins, of New York City, and members of the faculty of the University of Virginia School of Medicine and the Medical College of Virginia.

The lectures and clinics will be given in the Simon Baruch Auditorium, Egyptian Building, 13th and Marshall Streets. Fee: $25.00.

Medical College of Virginia News.

Dr. Everett I. Evans, Associate Professor of Surgery, has been named to the Advisory Board of the American National Red Cross by President Basil O'Connor. Dr. Evans with other members selected throughout the country will serve the Red Cross in an advisory capacity concerning its health and medical program.

Dr. Nathan Bloom, Associate Professor of Medicine and Chief of the Department of Electrocardiography at the College is co-author with Dr. Julius Burstein, Visiting Electrocardiographer and Chief of the Cardiac Clinic, Morrisania City Hospital, New York, of a new monograph, ILLUSTRATIVE ELECTROCARDIOGRAPHY.

A new department of anesthesiology has been opened at the Medical College of Virginia to offer training to physicians who desire to specialize in

anesthesiology. It is expected that the department will also improve the handling of anesthetics for patients in the hospital. Dr. Williams E. Pembleton has been named by President W. T. Sanger to serve as director of the new department. Dr. Pembleton is a graduate in medicine from the University of Pennsylvania and was associated with a Hartford, Connecticut, hospital at the time of his appointment.

Dr. Paul D. Camp, Associate in Medicine, read a paper at the Tri-State Medical Meeting at Charleston, South Carolina, on February 9-10 on the subject, "Bacterial Endocarditis: Its Early Diagnosis and Modern Treatment."

Fifteen doctors from Virginia, North Carolina, West Virginia enrolled in a course in heart disease at the Medical College of Virginia, February 9-14. Those from North Carolina were: Dr. S. C. Cox, Midway Park; Dr. H. A. Eldridge, Dunn; Dr. Edwin P. Ewers, Warsaw; Dr. W. B. Hooks, Tarboro; Dr. C. G. Milham, Hamlet; Dr. R. C. Sadler, Whiteville; Dr. C. F. Irons, Greenville; and from Virginia: Dr. R. Brittain, Tazewell; Dr. Frank W. Gearing, Jr., Woodstock; Dr. J. Paul Kent, Altavista; Dr. T. C. Lawford, Hilton Village; Dr. E. Bowie Shepherd, Richmond; and Dr. E. S. Williams, Richmond; and Dr. Upshur Higginbotham, Bluefield, W. Va., and Dr. Everett H. Starcher, Logan, W. Va.,

American Academy of Pediatrics

The Areal Meeting of the American Academy of Pediatrics will be held at the Statler Hotel, Buffalo, New York, April 29th to May 2nd, 1948.

Members of State Medical Societies are welcome to attend. The registration fee will be $5.00 for such non-members together with a $5.00 registration for which each registrant receives a ticket to the banquet, making a total registration fee of $10.00.

Registration may be made ahead of time by writing to Dr. C. G. Grulee, Secretary-Treasurer, American Academy of Pediatrics, 636 Church Street, Evanston, Illinois, enclosing a check for $10.00 or registration may be at the time of the meeting.

Clinical Directors.

Dr. Arthur J. Gavigan has been appointed clinical director at Southwestern State Hospital, Marion. He is a graduate of Yale Medical School and has served on the staffs of several state hospitals in Massachusetts and recently was with the Alton State Hospital in Illinois.

Dr. Stuart C. Runkle has been appointed to the position of clinical director at the Western State Hospital, Staunton, and assumed his duties on February 11th. He is a native of Pennsylvania, and a graduate of Jefferson Medical College in 1932. He comes to Virginia from the U. S. Naval Hospital at Honolulu where he served as chief of the psychiatric department with the rank of commander.

News from University of Virginia School of Medicine

Dr. H. B. Mulholland, Professor of Practice of Medicine, has been appointed a member of the Council of the American Diabetes Association.

On January 19th, Dr. James L. Poppen of the Lahey Clinic gave a lecture on "Intracranial Aneurysms" in the series of lectures on the Postgraduate Program for House Officers.

Dr. Eugene B. Ferris, Associate Professor of Medicine at the University of Cincinnati, gave a lecture in this series on January 26th. Dr. Ferris spoke on the subject of "Clinical Evaluation and Management of Hypertension".

Dr. Samuel Vest, Professor of Urology, spoke on the subject of "Urinary Tract Infections" at the Academy of Medicine, which met in Raleigh, North Carolina on January 30th.

At the Third Annual Conference on Rural Health, held in Chicago on February 7th, Dr. H. B. Mulholland spoke on the subject of "Health Councils".

The Regional Meeting of the Virginia Section of the American College of Physicians was held at the University of Virginia Hospital on February 12th. Members of the Medical School faculty and the University Hospital Staff participated in the program, which was presided over by Dr. Staige D. Blackford, President of the Virginia Section.

On February 13th, Dr. Oscar Swineford spoke on the subject of "Drug Allergy" at the meeting of the Danville and Pittsylvania Academy of Medicine in Danville, Virginia.

Dr. Joseph Lee Mann

Has returned to Hampton and re-opened his office at 176 Victoria Avenue. In 1941 he entered the Army Air Forces Medical Corps but recently has been located with a clinic group in Minot, North Dakota.

Dr. Thomas E. Painter,

Associate physician at Saint Albans Sanatorium, Radford, is taking the special course in psychiatry and neurology offered at George Washington University, Washington, D. C., February 16—March 6.

Dr. Oscar L. Ramsey, Jr.,

Recently engaged in general practice at Gretna, has moved to Holden, West Virginia, where he has accepted a position on the staff at the Holden Hospital.

Spring Graduate Course.

The Gill Memorial Eye, Ear and Throat Hospital of Roanoke will hold its twenty-first annual Spring Graduate Course in Ophthalmology, Otology, Rhinology, Laryngology, Facio-Maxillary Surgery, Bronchoscopy and Esophagoscopy April 5-10, in Roanoke. All lectures will be held at the Patrick Henry Hotel, and clinical demonstrations will be at the Hospital. The faculty will be composed of distinguished guests, whose names are given in the advertising pages of this journal.

Information as to the cost and other details may be obtained by writing the Superintendent, Box 2467, Roanoke, Virginia.

The Mental Hygiene Society of Virginia

Held its annual meeting at Baruch Auditorium of the Medical College of Virginia, Richmond, in the afternoon and evening of February 19th, under the presidency of Dr. Joseph R. Blalock of Marion. The theme for discussion was "hostility" and excellent addresses were given on this subject by four specialists in the mental hygiene Field.

Officers elected for the ensuing year are: President, Rev. Abner Robertson, Richmond; vice-president, Dr. Rex Blankinship, Richmond; secretary, Dr. R. W. Garnett, Danville; and treasurer, Miss Elizabeth Welbon, Richmond.

Jefferson Medical College.

The Annual Lecture given by the Alpha Omega Alpha Honorary Medical Society of The Jefferson Medical College of Philadelphia was held in the Assembly Hall of the College on Thursday, February 19, 1948.

The Speaker was Dr. Shields Warren, Director of the Division of Biology and Medicine of the Atomic Energy Commission, Pathologist to the New England Deaconess and Collis P. Huntingdon Hospitals, Assistant Professor of Pathology, Harvard University School of Medicine. His subject was "Medical Aspects of Atomic Energy".

New Head for U. S. Public Health Service.

It has been announced that President Truman will appoint Dr. Leonard A. Scheele as Surgeon General of the U. S. Public Health Service to succeed Dr. Thomas Parran at expiration of his term of service on April 6. Dr. Scheele is forty years of age, a native of Fort Wayne, Indiana, and has been director of the National Cancer Institute at Bethesda, Maryland, since last July.

Seminar in Psychiatry.

The Department of Mental Hygiene and Hospitals, the American Psychiatric Association, the Medical Society of Virginia, and the U. S. Public Health Service have planned a two-weeks seminar in psychiatry in Richmond from April 5 to April 16 inclusive. This seminar will bring together nationally known and local authorities in the field of psychiatry. During this two-weeks period it is expected that the various phases of mental disease and hospital treatment will be covered by such widely known physicians as Dr. Franklin G. Ebaugh, Director of the Colorado Psychopathic Hospital, Denver, Colorado; Dr. Thomas M. French, Chicago Institute of Psychoanalysis; Dr. Samuel W. Hamilton, Superintendent of Essex County Hospital, New Jersey; Dr. Gregory Zilboorg, New York City; Dr. R. Finley Gayle, Dr. David C. Wilson, Dr. J. Asa Shield, of Virginia; Dr. John Whitehorn, Johns Hopkins University; Dr. Winfred Overholser, Washington, D. C., President of the American Psychiatric Association; Dr. Frederick H. Allen, Director of the Philadelphia Child Guidance Clinic; Dr. Leo Kanner, Johns Hopkins University; Dr. Robert H. Felix, U. S. Public Health Service; Dr. C. C. Burlingame, of the Institute for Living, Hartford, Connecticut; Dr. Leland Hinsie, Professor of Psychiatry, Columbia; Dr. Abraham Myerson, Boston, Massachusetts; Dr. Nolan D. C. Lewis, New York City, and many others.

There will be no charge for attendance at this seminar and it will be open to all physicians, psychologists, and associated workers in the field of psychiatry.

Study Mineral Water as a Therapeutic Aid.

In the spring of 1944, Bernard M. Baruch set up the Baruch Committee on Physical Medicine which made major grants to Columbia University, New York University, and the Medical College of Virginia. He provided this in memory of his father, Dr. Simon Baruch who was deeply interested in the development of the mineral water treatments at the Saratoga Spa. The grant to the Medical College of Virginia was specifically for education and research in hydrotherapy, climatology and Spa therapy.

Dr. Frances A. Hellebrandt, director of the Baruch Center of Physical Medicine of the Medical College of Virginia, Dr. Ellen Neall Duvall, Research Associate and Miss Sarah Jane Houtz, research assistant of the center, have been at the Saratoga Spa for a month of study. They are taking the mineral water treatments experimentally, maintaining daily reports, and registering any changes which may occur as a result of the treatments.

Philadelphia County Annual Postgraduate Institute.

The Twelfth Annual Postgraduate Institute of the Philadelphia County Medical Society will be held at the Bellevue-Stratford Hotel, April 20-23, 1948. Due to the success of last year's program it is again planned to present the material in the form of a series of symposia on subjects of practical interest to the general practitioner and specialist.

Among the topics to be covered are Problems in Obstetrics and Gynecology, Newer Drugs and Procedures, Surgery of the Ambulatory Patient, Fractures, the Painful Breast, Neuropsychiatric Disorders, Problems of the Aged, the Acute Abdomen, Gastrointestinal Disorders, and Otolaryngological Problems.

In addition to the regular morning and afternoon programs there will also be two evening sessions at the Society Building on the subjects of Cancer and Pediatrics.

The usual large number of technical exhibits will be important features of the sessions. Registration fee for the entire meeting is Five Dollars. A copy of the preliminary program and any further information may be secured by writing to Gilson Colby Engel, M.D., Director, 301 South 21st Street, Philadelphia 3, Pa.

Dr. Roshier Miller Honored.

Friends of Dr. Roshier W. Miller, a former president of the Medical Society of Virginia, honored him with the presentation of his portrait to the Medical College of Virginia, on January 30th in Baruch Auditorium.

A member of the faculty of the college since 1894 when he became an instructor in the school of pharmacy, Dr. Miller has served in many positions at the college and engaged in a number of civic activities. He has been a member of the Alumni Association of the Medical College since graduation, serving for three years as president, three years as secretary, and alumni trustee. Last year he was elected trustee emeritus for the Association.

Dr. Miller was a member of the Richmond School Board for twenty-six years and served as chairman for eighteen years. He attended one thousand meetings of the Board missing only about twelve and presented personally twenty-six thousand diplomas to high school graduates of the city.

Since becoming a member of the Medical College of Virginia faculty in 1894, he has served as both teacher and dean of the school of pharmacy. Last year he was elected emeritus professor of materia medica and therapeutics.

Dr. J. Morrison Hutcheson presided at the presentation of the portrait; Dr. Harvey B. Haag, Dean of the school of medicine, spoke on "Dr. Miller and the College"; Mrs. Henry W. Decker on "Dr. Miller as a Citizen"; and Dr. Waverly R. Payne on "Dr. Miller and the Alumni Association". The portrait was presented by Dr. W. Lowndes Peple with President W. T. Sanger accepting it in behalf of the College.

State Department of Health.

Dr. F. J. Wampler, Health Officer of the Page-Warren-Shenandoah Health District for the past seventeen months, has retired, effective January 30, 1948.

Dr. Henry Stoll and Dr. J. R. Anderson have been appointed dental clinicians. Dr. Stoll comes

from the Guggenheim Dental Clinic, an institution for post-graduates in children's work. He will be assigned to Fairfax County. Dr. Anderson, recent graduate of the University of Tennessee, will be assigned to Smyth County.

Dr. Fred J. Wampler,

Recently of Luray, has been appointed to the position of Chief of Field Party for the Institute of Inter-American Affairs. The Institute is a corporation under the State Department whose function is to work with the Latin American republics in health and medical fields. Dr. and Mrs. Wampler may be addressed care the American Embassy, Lima, Peru.

Dr. Charles H. Baker,

Of Chilhowie, has been spending the winter in Florida with headquarters at Lakeland.

Recording Your Data in the New American Medical Directory

The American Medical Association reports that 115,000 physicians have returned their Directory Information Cards supplying data for the new AMERICAN MEDICAL DIRECTORY now being compiled. Those physicians who have received these cards and have not returned them are urged to do so at once. This information is needed for your listing in the 1949 Directory.

Please use the card that has been addressed to you, as it bears the serial number which has been assigned to your data. If a card is received by you addressed to another physician who has moved away, return the card with the doctor's new address written on the slip bearing his name and serial number if you can supply the information.

Before filling out your card, check the list of specialties on the back of the card and select only one specialty, indicating, in the space provided on the front of the card, either that your practice is limited to that specialty or that you give special attention to that branch of medicine along with general practice. Fill in the lines marked "Intern" and Resident" *only* if you are now serving an internship or residency in a hospital.

For Sale.

Office and medical equipment of doctor recently deceased. A full list may be obtained upon request. Write "Equipment", care the Monthy, 1200 East Clay Street, Richmond, Virginia. (*Adv.*)

OBITUARIES

Dr. William Lowndes Peple,

Prominent surgeon and educator of Richmond, died at his home in this city on February 7th. He graduated from the former University College of Medicine, Richmond, in 1897, following which he interned at St. Luke's Hospital, with which institution he was connected to the time of his death. He first taught at his alma mater and was later with the Medical College of Virginia, with which he had for some years been emeritus professor of clinical surgery. He served with Base Hospital N. 45 in World War I, and had been the recipient of many honors in his State and in national organizations. His wife, two children and a large family connection survive him.

Dr. Harvie DeJarnette Coghill.

Director-Psychiatrist of the Memorial Guidance Clinic in Richmond, died February 6th. He was sixty-three years of age and received his medical degree from the Medical College of Virginia in 1926. Dr. Coghill helped organize the Children's Memorial Clinic (now the Memorial Guidance Clinic) and became its director-psychiatrist in 1928 and had devoted all of his time to studying the behavior and personality problems of Richmond children. Recently he had worked as coordinator of the National Congress of Mental Hygiene and helped to prepare for the meeting this summer in London. Dr. Coghill was a member of several medical organizations and had been a member of the Medical Society of Virginia since 1926. His wife and two daughters survive him.

Dr. Edward L. W. Ferry,

Millers Tavern, died February 17th. He was seventy-three years of age and a graduate of the Medical College of Virginia in 1900. Dr. Ferry was a past president of the Mid-Tidewater Medical Society, a Mason, a member of the Medical Society of Virginia, and had been active in civic, fraternal, political, professional and church affairs in Essex County for many years. His wife and three sons survive him.

Dr. Perry Watson Miles,

Prominent Danville physician, died on February 21 at Johns Hopkins Hospital, where he had been under treatment for sometime. He was sixty-five years of age and a graduate from the

former University College of Medicine, Richmond, in 1908, later taking special work in internal medicine at Harvard. He practiced first in North Carolina, moving to Danville in 1919, where he became active in civic and professional circles. He organized the first playground project in that community, and was for sometime chairman of Danville's school board. Dr. Miles was a former president of the South Piedmont Medical Society, a vice-president of the Medical Society of Virginia in 1938 and had served on a number of its important committees. He is survived by his wife and six children.

Dr. Robert Sterling Montgomery,

Prominent physician of South Hill, died February 10th, after a long illness. He was thirty-seven years of age and a graduate of the Medical College of Virginia in 1934. Dr. Montgomery had practiced with his father, Dr. C. V. Montgomery since 1937 and until his retirement in 1946 because of ill health. He was active in civic affairs, having been president of the South Hill Chamber of Commerce, a member of the board of the proposed memorial hospital, and former scoutmaster of the South Hill Boy Scouts. He was a member of the Medical Society of Virginia. Besides his parents, he is survived by a brother.

Dr. Robert Edgar Mitchell,

Well known eye, ear, nose and throat specialist of Richmond, died on February 20, at the age of sixty-three. He had retired from practice several years ago because of ill health. A native of Johnson City, Tenn., he studied both pharmacy and medicine at the Medical College of Virginia, from which he graduated in 1913. He was a Mason and a Shriner and a member of several medical organizations, having joined the Medical Society of Virginia nearly thirty-five years ago. His wife and three children survive him.

Dr. Alfred B. Claytor,

Bedford, died January 9th of pneumonia. He was seventy-nine years of age and received his medical degree from the University of Pennsylvania in 1894. Dr. Claytor had been a member of the Medical Society of Virginia for twenty-seven years.

Dr. Joseph Henry Mitchell,

Well known physician of Buckingham County, died at his home in Dillwyn on February 11th. He was eighty-four years of age and a graduate of the Baltimore Medical College in 1895. Dr. Mitchell had practiced in Buckingham County for about forty years. His wife and four children survive him.

Dr. Leland E. Cofer,

A native of Richmond, died at his home in Palm Beach, Florida, on February 17th, at the age of seventy-eight. He graduated from the Medical College of Virginia in 1889 and his entire medical career was spent in public health work in various parts of the United States, Mexico and Hawaii.

Dr. Irving S. Barksdale,

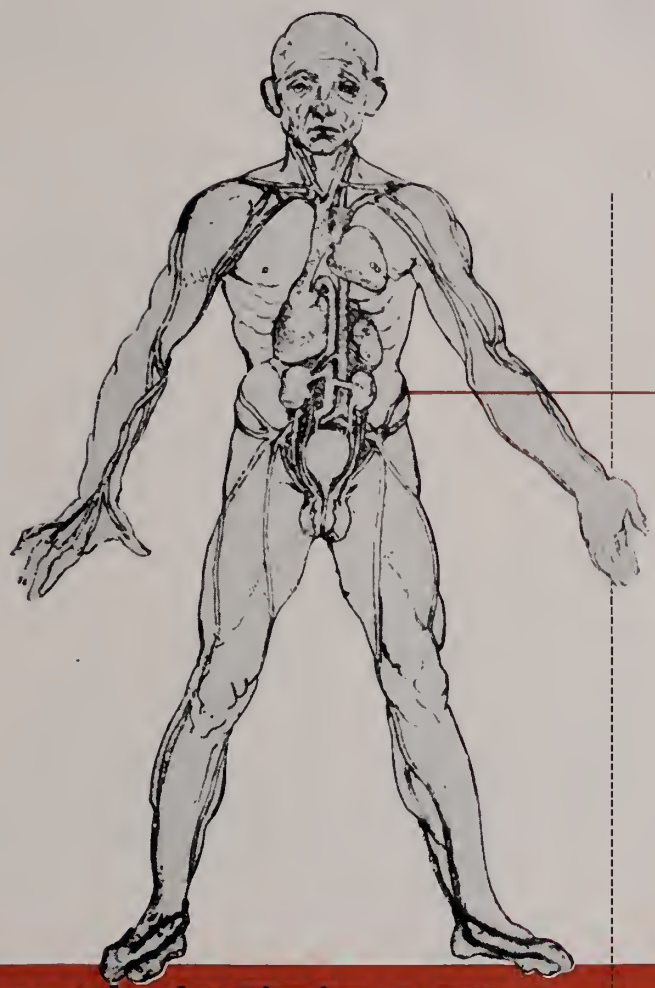
Greenville, S. C., died February 10th. He was born in Richmond in 1898 and was the son of Dr. and Mrs. George E. Barksdale of this city.

Dr. Joseph Caplan,

A native of Norfolk, died in Baltimore on February 7th, at the age of forty-eight. He was a graduate of the University of Virginia, Department of Medicine, in 1925.

Mr. Josiah K. Lilly, Sr.

We regret to announce the death on February the 8th of Mr. Josiah K. Lilly, chairman of the Board of Directors of Eli Lilly and Company, and former president of the Company.



Anatamic drawing by
Leonardo da Vinci—
Courtesy, The Bettmann Archive.

Leonardo da Vinci (1452-1519)

was well ahead of his time, for physicians of his day knew little of the function of the heart or the treatment of its diseases, although da Vinci's knowledge of such anatomy was extensive.

Physicians of today prescribe

SEARLE **AMINOPHYLLIN***

—a modern treatment for congestive heart failure, bronchial asthma, paroxysmal dyspnea and Cheyne-Stokes respiration.

Supplied for oral, parenteral and rectal use.
G. D. Searle & Co., Chicago 80, Illinois.

*Searle Aminophyllin contains at least 80% of anhydrous theophylline.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

SEARLE

RESEARCH
IN THE SERVICE
OF MEDICINE

STUART CIRCLE HOSPITAL

413-21 STUART CIRCLE
RICHMOND, VIRGINIA

Medicine:
ALEXANDER G. BROWN, JR., M.D.
MANFRED CALL, III, M.D.
M. MORRIS PINCKNEY, M.D.
ALEXANDER G. BROWN, III, M.D.
JOHN D. CALL, M.D.

Obstetrics and Gynecology:
WM. DURWOOD SUGGS, M.D.
SPOTSWOOD ROBINS, M.D.

Ophthalmology, Otolaryngology:
W. L. MASON, M.D.

Pediatrics:
ALGIE S. HURT, M.D.
CHARLES P. MANGUM

Orthopedics:
BEVERLEY B. CLARY, M.D.

Pathology:
REGENA BECK, M.D.

Bacteriology:
FORREST SPINDLE

Surgery:
CHARLES R. ROBINS, M.D.
STUART N. MICHAUX, M.D.
A. STEPHENS GRAHAM, M.D.
CHARLES R. ROBINS, JR., M.D.
CARRINGTON WILLIAMS, M.D.
RICHARD A. MICHAUX, M.D.

Urological Surgery:
FRANK POLE, M.D.
MARSHALL P. GORDON, JR., M.D.

Oral Surgery:
GUY R. HARRISON, D.D.S.

Roentgenology and Radiology:
FRED M. HODGES, M.D.
L. O. SNEAD, M.D.
HUNTER B. FRISCHKORN, JR., M.D.
RANDAL A. BOYER, M.D.

Physiotherapy:
MOZELLE SILAS, R.N., R.P.T.T.

Director:
MABEL E. MONTGOMERY, R.N., M.A.

TWENTY-FIFTH ANNIVERSARY
1923-1948
of
McGUIRE CLINIC
and
SIXTY-SIXTH ANNIVERSARY
1882-1948
of
ST. LUKE'S HOSPITAL

RICHMOND, VIRGINIA

General Medicine
JAMES H. SMITH, M.D.
HUNTER H. MCGUIRE, M.D.
MARGARET NOLTING, M.D.
JOHN P. LYNCH, M.D.
W. T. THOMPSON, JR., M.D.
WM. H. HARRIS, JR., M.D.

Orthopedic Surgery
WM. TATE GRAHAM, M.D.
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.

Urology
AUSTIN I. DODSON, M.D.
CHAS. M. NELSON, M.D.

General Surgery
STUART MCGUIRE, M.D.
W. LOWNDES PEPLE, M.D.
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOHN ROBERT MASSIE, JR., M.D.

Otolaryngology
THOS. E. HUGHES, M.D.

Dental Surgery
JOHN BELL WILLIAMS, D.D.S.
GUY R. HARRISON, D.D.S.

Obstetrics
H. C. SPALDING, M.D.
W. HUGHES EVANS, M.D.
JAMES M. WHITFIELD, M.D.
WM. T. MOORE, M.D.

Ophthalmology
FRANCIS H. LEE, M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D.

Roentgenology
J. LLOYD TABB, M.D.

Pathology
J. H. SCHERER, M.D.

PROFESSIONAL MEN'S PROGRAM

A PLAN OF

INCOME PROTECTION WITH LIFETIME BENEFITS

Available to Eligible Members of the

•MEDICAL •DENTAL •LEGAL Professions

Summary of Combined Benefits Provided in Policy Form UG 20N of United Benefit and PG 20N of Mutual Benefit

Regular Monthly Benefit	Double Monthly Benefits for Specified Travel Accidents	Accidental Death Benefit	Double Accidental Death Benefit for Specified Travel Accidents
$400.00	$800.00	$10,000.00	$20,000.00

NEW HOME OFFICE • OMAHA, NEBRASKA

Separate Policies Underwritten By

Mutual Benefit Health and Accident Association

THE LARGEST EXCLUSIVE HEALTH & ACCIDENT COMPANY IN THE WORLD

and

United Benefit Life Insurance Company

ONE OF AMERICA'S FOREMOST LIFE INSURANCE COMPANIES

For information, write or call

PROFESSIONAL MEN'S DEPT.
930 Central National Bank Building
Richmond, Virginia

THESE SPECIAL POLICIES APPROVED BY VIRGINIA INSURANCE DEPARTMENT

The rooster's legs are straight.

The boy's are not.

The rooster got plenty of vitamin D.

Fortunately, extreme cases of rickets such as the one above illustrated are comparatively rare nowadays, due to the widespread prophylactic use of vitamin D recommended by the medical profession.

One of the surest and easiest means of routinely administering vitamin D (and vitamin A) to children is MEAD'S OLEUM PERCOMORPHUM WITH OTHER FISH-LIVER OILS AND VIOSTEROL. Supplied in 10-cc. and 50-cc. bottles. Also supplied in bottles of 50 and 250 capsules. Council Accepted. All Mead Products are Council Accepted. Mead Johnson & Company, Evansville 21, Ind., U.S.A.

THE N.Y. ACADEMY
OF MEDICINE
APR 20 1948
LIBRARY

Virginia
MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Guest Editorial. J. Morrison Hutcheson, M.D. 159

Some Miscellaneous Observations on Management of the Allergic Patient. Edward Lee Alexander, M.D., Newport News, Va. 161

Medical Public Relations. John T. T. Hundley, M.D., Lynchburg, Va. 167

Management of Diabetic Coma. James H. Smith, M.D., Richmond, Va. 171

Blood Disturbances and Anuria Resulting from Severe Burns. Peter J. DeVries, M.D., and Horace Allen Albertson, M.D., Roanoke, Va. 173

Medical Care and Hospital Administration. Philip S. Smith, M.D., Abingdon, Va. 179

Indications for Broncho-Esophagology. Horace D. Hoskins, M.D., Lynchburg, Va. 182

A Clinical Review of Papillary Adenocarcinoma of the Ovary. George Speck, M.D., Arlington, Va. 185

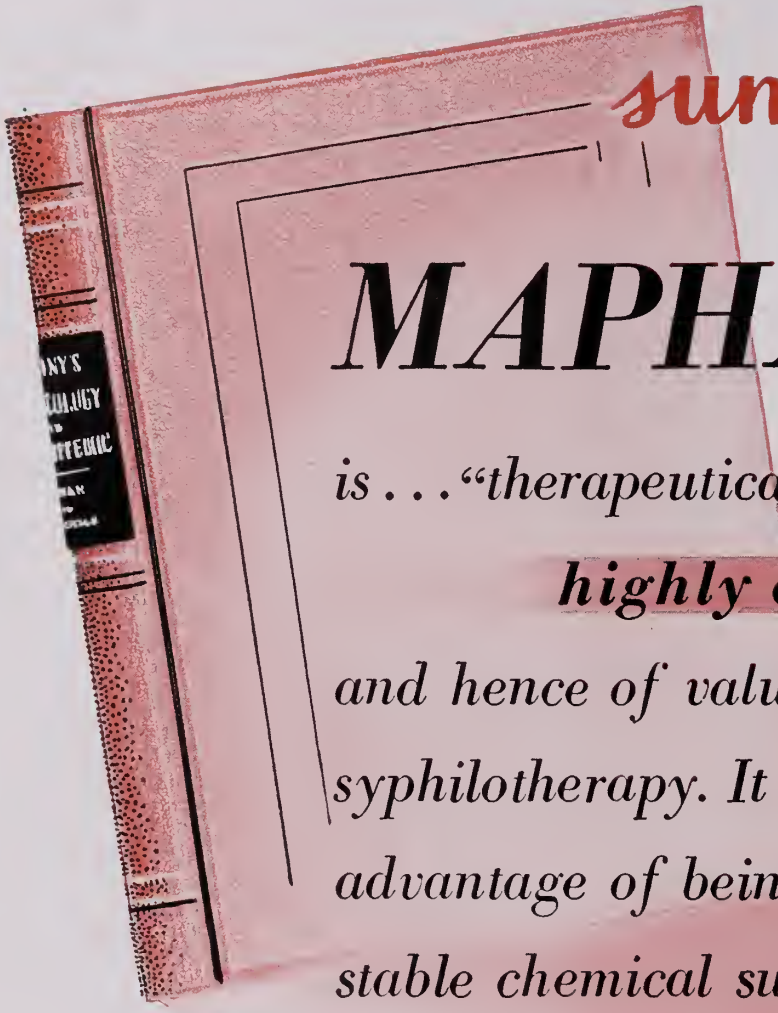
The Anemia Problem in Everyday Practice. Harvey C. Brownley, M.D., Lynchburg, Va. 191

Cancer Following Burn Scars. Hyman Cantor, M.D., Petersburg, Va. 197

An Evaluation of the Annual Serologic Test Performance Studies Conducted by the Virginia State Health Department from 1940 Through 1946. E. M. Holmes, Jr., M.D., Richmond, Va. 200

Continued on page 6.

April, 1948



summing up:

MAPHARSEN®

is . . . "therapeutically

highly effective

and hence of value in syphilotherapy. It has the advantage of being a pure stable chemical substance and relatively easy to administer, and in the doses used in therapy, well tolerated." *

*Cushny, A. R. Pharmacology and Therapeutics, 13th Ed., Lea & Febiger, Philadelphia, 1947, p. 183.

Educating people to

"See Your Doctor"

More than 23 million people read the magazines that carry the Parke-Davis series of "See Your Doctor" messages.

In the interest of the medical profession, Parke, Davis and Company has continued this educational campaign for over 19 years.

To date, 210 full-page messages have been published in leading national magazines.

PARKE, DAVIS & CO.

DETROIT 32, MICHIGAN

Custom-made clots are now available with Gelfoam.*

The old surgeon may have dreamed of the day when a ready-made clot would staunch oozing surfaces, capillary bleeding, trickling from small veins, hemorrhage from resected tissues.

The surgeon of today has at hand a custom-made clot with GELFOAM, the absorbable hemostatic gelatin sponge. Cut or molded to the exact specifications of any wound, and applied with or without thrombin, GELFOAM may be left in situ without fear of tissue reaction.

*Trademark, Reg. U. S. Pat. Off.

Gelfoam

Upjohn
KALAMAZOO 99, MICHIGAN

fine pharmaceuticals since 1886

Virginia Medical Monthly

Vol. 75, No. 4
WHOLE No. 1150

RICHMOND, VA., APRIL, 1948

25 CENTS A COPY
$2.00 A YEAR

GUEST EDITORIAL

The Nursing Problem

IT is generally recognized that the increasing shortage of trained nurses has reached alarming proportions and that it seriously handicaps medical service. Though more new student nurses were enrolled in 1947 than ever before in peace time, demand for nursing service has grown at so rapid a rate that it still far exceeds available supply. This disturbing fact has been widely discussed in both medical and lay publications, and though various causes and remedies have been proposed, the problem remains as yet unsolved.

Outstanding among the causes assigned for the deficit in nursing is the system of training that has been evolved during the past few decades and is now in operation. It is asserted that cultural and scientific education has been stressed to the point that many candidates otherwise qualified have been denied admission to training schools and that those who succeed in graduating are not interested in the care of sick patients. With the apparent idea of becoming a learned profession, nursing has at the same time adopted closed shop methods and has developed legislative and other means of enforcing its arbitrary standards upon hospitals and physicians. In short, it is said that nurses are being educated away from their proper sphere, and no improvement may be expected until the present system is radically revised.

Others hold that economic factors are chiefly responsible. They believe that nursing offers too small a reward to those who practice it, and is too costly to those who need it. The pay of a nurse is compared to that of various other vocations—bricklayers, for example—with the conclusion that a nurse's pay is insufficient and that this, together with lack of adequate provision for social security, deters young women from entering the profession. They point to the scarcity of workers in other fields, the general preoccupation with wages and hours, widespread unrest and dissatisfaction throughout the world, and suggest that the situation in nursing differs little from that in many other departments of human endeavor.

Though full agreement is lacking as to its cause or causes, efforts are under way toward solving the problem. Sponsored by the American Hospital Association, a nation wide campaign is being carried on to induce young women to enter the nursing profession. This campaign has the endorsement of numerous medical, health and welfare organizations, and while its announced goal of 50,000 new student nurses in 1948 may not be realized, its usefulness cannot be overlooked and it deserves the hearty cooperation and support of all who are interested in the care of the sick.

The recent development of plans for training a new group of so-called practical nurses is regarded as a possible solution. This movement is significant in that it recognizes the fact that nursing can be competently done by those who have had a brief period of practical training. Most physicians believe that the greater part of bedside nursing can be carried on by nurses so trained, but the idea has been received with no great enthusiasm by nursing associations who reject the proposal that training of practical and professional nurses be coordinated. Physicians generally

and many nurses believe that such coordination is practical, and no better plan has been suggested than that outlined in an editorial in the VIRGINIA MEDICAL MONTHLY for July, 1946. This plan proposes that all schools of nursing adopt a two year course with substantial curtailment of educational requirements. Graduates would then be adequately prepared for bedside nursing, while for those with superior preliminary training and ability, post-graduate work in special fields would be available.

Most promising is the renewed interest of the medical profession in nursing. Authorized by the House of Delegates of the American Medical Association, a committee is now actively engaged in studying the whole problem of nursing care. Its personnel gives assurance of vigorous and open-minded consideration of the questions involved, and it may be assumed that whatever recommendations are made will be definitely constructive. This action may be interpreted as the beginning of a concerted and continuing effort on the part of doctors to secure for their patients the kind of nursing care that is needed. It is believed that this committee can and will succeed in reconciling conflicting views and interests to the degree that nurses, doctors and hospitals may unite in a program to which all can give wholehearted support.

Despite current criticisms, nursing as a vocation is basically sound and its future is assured. It offers useful and interesting employment with variety of opportunity and rewards commensurate with ability and efficiency. It is an integral part of medical care. Doctors, medical societies and women's auxiliaries are urged to make this clear to young women who are about to choose a vocation, and to point out to them the advantages of nursing as a career.

J. MORRISON HUTCHESON, M.D.

EDITOR'S NOTE: Dr. Hutcheson is a member of the House of Delegates of the American Medical Association, and is conversant with the policies of that organization.

Floral Eponym (61)

MAGNOLIA HALLEANA; LONICERA HALLIANA

HALL, GEORGE R.

HALL graduated at Harvard Medical School in 1846. He practiced medicine in Shanghai for many years and then devoted himself to botanical collecting, especially in Japan.

M. Halleana or M. Stellata is the beautiful star magnolia, one of the first to bloom in the spring.

L. Halliana or L. japonica is one of the climbing honeysuckles.

SOME MISCELLANEOUS OBSERVATIONS ON MANAGEMENT OF THE ALLERGIC PATIENT*

EDWARD LEE ALEXANDER, M.D.,
Newport News, Virginia.

This discussion makes no attempt to present anything original or to engage in any of the controversies regarding the allergic or hypersensitivity problem. Its sole purpose is to re-emphasize some of the phases of therapeutic management which have, through the years, appeared important. Furthermore, it appears that some of the important phases of management have not been adequately emphasized, either in the textbooks or in the current literature. It is obvious that certain environmental influences in which man finds himself have not been to his advantage and have eventuated into certain problems for him, important among which are those diseases now spoken of in the category of allergy. The ever-increasing complexity of modern life subjects the body cells to environmental conditions which are relatively new to it—so new at times that it is unable to make adequate adjustment and cellular irritation and/or injury results.

Urbach[1] wrote in 1946:

"The current economic and social upheavals and the general unrest of the population constitute one of the outstanding predisposing factors in the pathogenesis of hypersensitivity. The city dweller's diet, rich in protein, salt and spices on the one hand and poor in calcium vitamins and roughage on the other, tends to support and maintain allergization. * * * There has been an alarming increase in the incidence of allergic disease * * *. Why are they found chiefly in the large cities?"

Allergy, or hypersensitivity is a disorder of civilized man and under suitable conditions all people may become hypersensitive. The type of reaction on the part of the body cells will depend upon the kind of noxious agent to which they are exposed, the length of exposure, the quantity and quality of the agent and to the health of the cells themselves. One of the major cellular responses is the production of anti-substance (anti-bodies) which is destined to be used for defense against further attacks, very much like a nation protects itself against attack by the enemy. However, as is frequently the case, this defense mechanism is inadequate and the cell loses its life in the struggle. Between adequate defense and protection on the one hand and death on the other, there exist intermediary grades of response and result. Between these two extremes are found diverse grades of tissue reactivity.

Let us look at some of the changes which have occurred. According to Sears[2], the ratio of civilized man to the age of man upon the earth is computed to be 1 to 500. That is, for every year he has attempted to adjust himself to living with other people in communities, he has been in existence upon the earth 500 years. In the beginning, man lived in a tropical climate. He moved north only when he found ways to secure the fur of animals to cover his body and in comparatively recent years he has gathered about him walls, smoke and fog. In the skin of man there is found a substance known as 7-dehydrocholesterol, which upon exposure to sunlight, yields vitamin-D. This substance has to do with the mobilization and utilization of calcium and phosphorus in the body. Now, since coming out of the sunshine, substitutions have necessarily had to be furnished, with what results are unknown at this time. Certainly, this change from sunshine to no sunshine is relatively recent. Judging from the frequently encountered disorders of metabolism of these two substances, one wonders if the change has been successful for him.

In Jonathan Swift's "Tale of a Tub", bread is referred to as the staff of life. At the time that was written, it may be supposed that bread was the staff of life because it was dark bread and contained all of the ingredients nature meant for it to contain, important among which was thiamin chloride. However, much less than a century ago, the roller mill was invented, first by the Hungarians and finally, about 70 years ago, it came to America. This device enabled the bread business to be more commercialized by taking the germ out of the grain and making the flour sterile so that it could be kept on the groceryman's shelf. Despite decrease in quality, the quantity of consumption increased from year to year until we now consume over one billion and one half dollars worth of

*Presented before the Southeastern Allergy Association, January 1947.

bakery products annually. Added to the roller milling of our grain, there appeared another important item in this changing diet of man. He began to increase his sugar consumption. Mendell[3], in 1927, stated:

"During the early part of the last century, sugar was used primarily as a condiment. The consumption in 1823, for example, has been estimated at enough to give each person 8.8 pounds a year, which represents about 44 calories per day. Last year, somewhat more than a century later, the annual per capita consumption of sugar amounted to 108 pounds, or more than 500 calories per day, representing on an average of nearly 1/5 of our energy intake—1000 calories being sold at a retail price of less than three cents."

Therefore, not only has there been a diminished intake of thiamin chloride, for example, but there has been an ever-increasing demand, which has undoubtedly eventuated into widespread thiamin chloride deficiency, this being concerned with carbohydrate metabolism. If one studies the soda fountain and cocktail bar habits of the American people in recent years, it could be very readily assumed that should Dr. Mendell make another survey now, he would find the consumption of sugar, regardless of the shortage, to be much increased.

In the 1939 Year Book of Agriculture[4], Henry Wallace, then Secretary of Agriculture, stated:

"Fifty per cent of the people of the United States do not get enough in the way of dairy products, fruits and vegetables to enable them to enjoy full vigor and health. * * * all too many families in the United States have poor diets. Some have fair or passable diets and only relatively few have really good diets."

Of the number of rejectees in World War II, the figure being approximately one rejected for every three accepted, between 30 and 40 per cent of this group had physical defects of alleged nutritional origin. The writer has been interested in the manner in which people eat for a great number of years and so has made observations among all types of people from the "greasy spoon" to hotels of celebrated reputation. All up the line, the observation has been unanimous that American people haven't much idea of what is good for them in the way of nourishing their bodies. A few weeks ago a college student who was graduated from a very fine private boy's school, had spent two years in the Navy and is now in his third year at a well known university, was asked how much instruction he had had with regard to what's good for him to eat. He replied that he had received none.

The writer had occasion, not only to observe the eating habits of the enlisted personnel, nurses and patients in the hospitals during World War II, but also those of medical colleagues during four and a half years of Naval service. The most astounding observation made was the diet of the average Medical Officer. There, of course, was no measured sampling of rations, but in the vast majority of instances, breakfast consisted of white bread or toast, a small piece of butter, fruit juice, jam and coffee. The average luncheon consisted frequently of a white bread sandwich, ice cream and coffee—milk sometimes. The dinner was considered to be fair. Urban man now takes a light breakfast, largely of carbohydrates, a sandwich lunch and the major portion of his calories are taken in the evening when the day's work is done. In other words, the engine is refueled after the run.

In a recent book, previously referred to, "Cities are Abnormal", figures are tabulated which show the shift in population from country to city:

	1940	1900	1850	1790
Urban	56.5	39.7	15.3	5.1
Country	43.5	60.3	84.7	94.9

In a very few years, therefore, man has come from a rural existence where there was sunshine, fresh air and space, to the crowded conditions of the industrial city of today which is filled with smoke, no sunshine, irregular food, noise and insecurity.

For most of the five million years in which man has alleged to have started his existence on this terrestrial globe, he, of necessity, retired with darkness and arose at dawn. Only a very few years ago did he find ways of artificially lighting his way, so that now, his average time for going to bed is becoming later and later. In the little industrial city with which the writer is familiar, the average time for going to bed of a group of allergic patients was 11:15 P.M. The average time for arising was 5:45 A.M., representing a total of six and one-half hours of sleep assuming that every minute was spent in profound slumber. This is not only insufficient sleep for the sick or allergic patient, but is insufficient for the allegedly well individual as well. So, our little man has become a night-lifer.

He has also become chronically addicted to nico-

tine. It seems as though almost everyone smokes and when asked about the amount of tobacco consumed, the usual reply is "a pack a day", oftentimes more. Tobacco is a known sympathetic nervous system stimulant and a cigarette an hour will maintain the blood vessels in a state of spasm, not to mention the chronically irritating effects on the bronchial mucosa. In the patient who has nasal or respiratory allergy, tobacco is definitely contraindicated.

There has arisen among our people a state of chronic constipation, due perhaps in part, to a lack of bulk in our diet and, in part, to a tendency to arise at the last minute in the morning with insufficient time to attend to this very important function. It has been amazing to see how many patients will give the history of irregularity of bowel function but if they are asked the question, "Are you constipated?", the answer will frequently be "No." If this be followed by the question, "What time do your bowels move each day?", it will be found that so frequently the time is irregular, and if this question is followed up with appropriate rectal examination, one will find hard, lumpy masses in the rectum, which means that the individual's elimination is inadequate. Then you will be amazed at how frequently these people take mineral oil. This substance was introduced as a laxative between 1905 and 1910. It was in 1927 that Dutcher[5] et al, and Burrows and Farr[6], showed that liquid petrolatum interfered with the absorption of carotene. They made the observation that each ounce of mineral oil at body temperature is able to dissolve 140,000 units of carotene, and at room temperature, 120,000 International units. The average American diet has been found to contain only 10,000 units of vitamin-A a day and two-thirds of this is contributed by carotene of plant foods, according to the above writers. Also, it has been found that vitamin-D, vitamin-K and vitamin-E are also fat soluble and will be carried through the gastrointestinal tract when dissolved in mineral oil. This may be a factor in vitamin-A deficiency with the squamous cell hyperplasia so beautifully exhibited at the recent American Academy of Allergy meeting in New York, by Dr. Milton G. Bohrod.

The ever increasing chemical substances to which man is exposed is introducing new problems for him. Vaughan[7] wrote in 1936, "All Persons are Potentially Allergic". He summarized the conclusions of Spain, et al, as follows:

"A given percentage of persons will give positive reactions to patch tests with 1/1,000 dilutions of ivy extract. If those who now fail to react are tested with 1/100 dilutions, the same percentage will be found to react. If those who fail to react to 1/100 are tested with 1/10, the same percentage will be found to react."

The same condition has been found to be true of exposure to nickel. Therefore, it is evident that body cells exposed long enough to strong enough concentrations of an agent, respond by the reaction of hypersensitivity in almost every case.

Then there is the ever increasing imbibition of alcohol. In the year 1946, more than $6,000,000,000 was spent on alcohol. It has been shown by various workers that the allergic state may be aggravated or symptoms initiated under the influence of alcohol. For a great many years the battle was waged as to whether alcohol was the cause of cirrhosis of the liver. While it was common knowledge that the disease was encountered most frequently in the alcoholic, it also occurred in those who did not use alcohol. It is now generally believed that the fibrotic process is initiated in the absence of certain essential nutrient materials. This would explain the occurence of the disease not only in the alcoholic but in the non-alcoholic as well.

Some have come to regard periarteritis nodosa, which is actually a panarteritis, as a manifestation of hypersensitivity. Rich[8], in 1942, described five cases of this disease in patients who had serum sickness and who had received sulfonamides. The lesions on autopsy showed the typical pathological lesions. In a subsequent paper, Rich[9], reported on the experimental production of periarteritis nodosa by the injection of horse serum in animals. Some of his animals developed glomerulonephritis. He concluded that some cases of glomerulonephritis in man may be the result of hypersensitivity. Other papers by Rich, et at[10], have set forth some evidence that lesions in the hearts of hypersensitive animals bear certain resemblances to those of rheumatic carditis.

Drs. Hill and Damiani[11], reported a case of periarteritis nodosa following one exposure to DDT.

In August 1945, Palmer[12], in discussing migraine headache, wrote:

"We have concluded that there exists in the migraine patient a cyclic total body or tissue toxemia of metabolic origin or the absence or deficiency of an enzyme essential to normal tissue metabolism. In a series of 500 cases treated with thiamin chloride, nicotinic acid and syrup of B complex, sixty per cent have had complete relief. Another twenty per cent were definitely relieved."

We* have treated a series of 50 cases by the Palmer method and have found that fifty per cent of these patients were totally relieved under observation. If what Dr. Palmer says is true, then it must be assumed that migraine, in part, might be on the basis of a deficiency disease.

Dr. Peters[13], reported on the mechanism of headache on the basis of swelling nerve tissue, associated with vitamin B deficiency.

Tuberculosis is a disease now generally recognized to have at least an allergic equivalent. When the diagnosis is made, the patient is immediately sent to a sanatorium for treatment. He is put to bed in a lighted room with fresh air, adequate food, good psychological surroundings and appropriate instructions for body hygiene destined to mobilize all possible resources of body defense to aid in the battle of the body versus tubercle bacilli. There is, up to now, no known specific immunization or desensitization procedure whereby the body may be aided in its defense. So, dependence must be placed on the indirect plan of attack. As a rule, the results are successful. Finally, the patient is returned to his home, not with a bottle of extract and a sheet of instructions, but a sheet which tells him that his disease is not cured, but only arrested, and goes into great detail as to how he should live in some fashion as he has lived at the sanatorium.

Bronchial asthma is a serious disease and has some counterpart with relation to tuberculosis, but up to now, society is not prepared to accept it as such. So, the individual with his intrinsic asthma, for example, wheezes on, eventuating into emphysema and/or bronchiectasis.

The following cases will serve to illustrate some of the points discussed in the foregoing:

CASE 1. Mrs. C. was first seen in February of 1946. She was a white female, aged 29, married and without children. At the age of 14 she had pneumonia. The pneumonia occurred in the winter and the following autumn she had severe hay fever, following which she developed perennial asthma. There were years of relative freedom from symptoms. At age 22 she was married and she says that her asthma became definitely worse following marriage. She described her married life as being very normal, denying any incompatabilities whatsoever, but said that her husband was a very nervous man. The physical examination showed her weight to be 100 lbs. (ideal 142 lbs.) and her height 5′8″. Except for asthma and her emaciated appearance, the physical examination revealed nothing very remarkable. Pelvic examination was not made. The laboratory studies were all within normal limits. On appropriate allergic studies there were marked reactions to feathers, dust and ragweed. She was started on appropriate desensitization with some encouraging results in the beginning, but as the fall progressed, it became obvious that treatment was inadequate. Finally, the information came to hand that the patient had seven years of sexless marriage. This condition was appropriately remedied and married life proceeded in a normal fashion. For a month following correction of this abnormality, all seemed very well and then suddenly she came down with severe asthma and for several weeks was in status asthmaticus. After six weeks of hospitalization, she improved satisfactorily. Reference to her ration revealed that she ate four or five slices of white bread with each meal, little or no meat, very little milk and an occasional egg. In other words, she was living on an almost pure carbohydrate diet. In the meantime, appropriate desensitization to the above referred to allergens was being carried out in a cautious manner. With a readjustment of her food intake she began to gain weight, desensitization was stopped and for the first time in several years she has had six weeks of freedom from asthma. She is of the opinion that the change in her dietary habits was the procedure which started her on the road to recovery.

CASE 2. Master G., white, male, Protestant, American, age 12. At age 7 began to have classical migraine which would always occur at 11 A.M. on Tuesdays, characterized by bilateral headache followed by severe nausea and vomiting with recovery by Thursday so that he could return to school. His mother gave the history that he ate very little breakfast, had hot dogs and coca-cola for lunch and the usual supper. He never drank milk—disliked it. His lips were always red and

Dr. Edward B. Newborne, Associate.

chapped and about a year ago he began to have sneezing spells. Otherwise the history was irrelevant. Physical examination showed a malnourished boy with low grade allergic rhinitis; otherwise, nothing remarkable. The laboratory studies were essentially unrevealing except for 6 per cent eosinophilia. The scratch tests revealed 4+ reaction to house dust. Very cautious dust desensitization was started and he was placed on an appropriate vitamin mixture and an adequate ration. From the date he was first seen, on April 8th, 1946, until the last time on January 3rd, 1947, he had not had one single headache. His allergic rhinitis continued, however, until elixir benadryl was started. Dust desensitization has been cautiously continued.

CASE 3. Mrs. J. was first seen on February 1st, 1946. She began to have urticaria in 1945. At the time she was first seen she had severe and widespread urticaria. The history was that she was "very nervous", that she came from a broken home (her mother and father had been divorced) and that she had been divorced from her first husband and had been married to her present husband for five years. She gave the additional history that she consumed 10 cups of coffee daily, most of which was in the evening, a package of cigarettes per day, retired at 12 midnight and arose at 6:30 A.M. In addition to her housework she had the responsibility of her home, including the care of her child of the first marriage, and was employed as a stenographer. She was alleged to have had hypothyroidism and was taking 4 grains of thyroid daily. She ate no breakfast in the morning, a light lunch, and the usual American dinner. Physical examination showed an intelligent, cooperative, anxious individual with widespread generalized urticaria. The laboratory studies were negative. After the initial flare had subsided, it was found that she was 4+ sensitive to house dust and 2+ to feathers. These findings were ignored. She was placed on a commonsense regimen of living and eating with prompt subsidence of symptoms. She remained well for three months and then, following the taking of some aspirin, had recurrence which promptly subsided.

CASE 4. Mr. V first came into the office in December, 1946, with the history of severe urticaria beginning on the 13th of November, 1946, and which had continued unremitting and severe until the day he was seen at the office. The city in which he lived had a Fiftieth Anniversary celebration in October and he was detailed, as chairman of a committee, to prepare a float representing the Greek inhabitants of the city. He, being of a conscientious trend of mind, resolved, upon appointment to this commission, to have the best float in the parade. To that end, he started working on it in August and, as he described it, worked night and day, getting only 3 to 4 hours of sleep each night. He won the float prize in October of 1946 but he didn't get back to his normal habits of sleep and found that he had insomnia. Being a restaurant proprietor, he ate irregularly. His breakfast consisted of two eggs and three slices of toast anywhere from two to three o'clock in the afternoon. Rarely did he have lunch and would eat his supper late at night. The neuro-psychiatric history was that he appeared to be of high-strung, perfectionist, puritanical, soul-saving temperament. He did not use tobacco or alcohol. He had never married. Physical examination was entirely negative except for urticaria. Laboratory studies, including the allergic series, were essentially negative. He was directed toward a more sane manner of living. The results have been satisfactory up to this date.

DISCUSSION

Within the last few years, therefore, man has transferred from the rural to urban regions where he has encountered an entirely new way of life which frequently has not been beneficent to his well being. If, therefore, we are to succeed in the management of some of these diseases, which he has acquired in his new environment, it would appear that some compromise between what he was accustomed to and that with which he is now faced, must be accomplished. One way, perhaps, would be for him to replant one foot on the soil from whence he came. Some industries, chief among which is the Ford Motor Company, have already taken some action in this regard. The employees of that vast empire are urged to acquire a parcel of land which is removed from the industrial center, where they are encouraged to acquire some knowledge concerning horticulture so that they may, in part at least, be self-sustaining and relatively secure. In order to accomplish this, our educational system will have to be revised and the whole of human society will have to assume the responsibility for this colossal, though not impossible, undertaking. The retraining must concern itself with

methods of how to eat, sleep, smoke and drink and that a healthy brain must be carried around by a healthy body.

The present day management of allergic diseases has been concerned entirely too much with the categorical procedure of skin tests, elimination and injections, and too little with the natural history of the patient's manner of living which initiated the process.

CONCLUSIONS

1. The change from rural to urban living has been too sudden for the tissues of man adequately to adjust. Tissue responses resulting from these changes have been discussed.
2. Reason was meant to protect him where instinct formerly did, but the former has misdirected him.
3. The whole of society must participate in man's rehabilitation if the diseases acquired in his civilization are to be controlled.
4. Some suggestions have been presented which may be of aid.

BIBLIOGRAPHY

1. Urbach and Gottlieb, Grune and Stratton, Allergy.
2. Sears, P. B., Cities are Abnormal, University of Oklahoma Press, 1946.
3. Mendell, L. B., Changing Food Habits in Your Weight and How to Control It, Doran & Co., 1927.
4. Food and Life, Year Book of Agriculture, 1939.
5. Dutcher, R. P. et al. Assimilation of Vitamin A in Presence of Mineral Oil. *Proc. Soc. Experimental Biology and Medicine,* **24**:953, June 1927.
6. Burrows, W. T. and Farr, W. The Action of Mineral Oil Per Os on the Organisms. *Ibid,* June 1927.
7. Medical Papers, Waverly Press, 1936.
8. Rich, A. R. The Role of Hypersensitivity in Periarteritis Nodosa, *Bull. of Johns Hopkins Hospital,* **71**:173, 1942.
9. Rich, A. R., Gregory, J. E. The Experimental Demonstration that Periarteritis Nodosa is a Manifestation of Hypersensitivity, *Bull. of the Johns Hopkins Hospital,* **72**: 1943.
10. Rich, A. R., Gregory, J. E. Rheumatic Carditis, Experimental Evidence That Lesions within the Basic Characteristics of, can result from Anaphylactic Hypersensitivity, *Bull. Johns Hopkins Hospital,* **73**:239, 1943.
11. Hill, W. R. and Damiani, R. C. *New England Journal of Medicine,* **235**:897.
12. Palmer, H. D. Migraine Headache, *Clinics,* **4**:No. 2, August, 1945.
13. Peters, R. A. The Mechanics of Headache is the Swelling of Nerve Tissue. *Lancet.* **1**:1161, 1936.

2901 West Avenue

Skin Complaints and Mental Disease.

Certain skin complaints often are among the first signs of an underlying mental disease, according to two Chicago doctors, Theodore Cornbleet, M. D., and Meyer Brown, M.D., from the Department of Dermatology of the University of Illinois College of Medicine and the Department of Nervous and Mental Diseases of Northwestern University Medical School.

Writing in the January 17 issue of *The Journal of the American Medical Association,* the writers observe that disturbed sensations of the skin which cannot be traced to any rational source should always be suspected. Some of the most common of these are intense itching which develops suddenly, a feeling of numbness, tingling, burning, drawing, heat or cold, a sensation of insects crawling or of droplets falling on the skin.

An actual skin disorder may sometimes be accounted for by excessive washing or cleansing of the skin which springs from a delusional idea, the doctors point out. Unreasonable concern over the appearance of some simple condition such as a few additional facial hairs or moles or increased dryness or oiliness of the skin, as well as complete indifference to serious skin disease, also may indicate that a psychiatrist's services are needed. Excessive sweating, feelings of warmth, blanching or flushing or blushing may or may not be part of a set of psychiatric symptoms. More obvious are bizarre delusions involving the skin and self-induced injuries.

MEDICAL PUBLIC RELATIONS*

JOHN T. T. HUNDLEY, M.D.,
Lynchburg, Virginia.

We repeatedly meet, as groups of doctors, to discuss our problems. Many of our ideas are good, but we tend to forget that the medical profession composes but a small proportion of the total population. It is true that our influence is disproportionate to our numbers, but our influence is not great enough to long allow us to run counter to public opinion, nor can we stem an overwhelming tide of adverse criticism.

We need to know what the public is thinking. Not the professional agitators, but the common garden run who compose our practices. Perhaps the public is wrong. That makes no difference if they are not convinced. Unfavorable public opinion will engulf us unless we, first, put our house in order, and second, convince the public that their best interests lie in the continuation of the present system of the private practice of medicine.

In preparation for this talk I attempted to sample public opinion. I selected a group of people who had reason to know of medical problems in the community. To prevent personal bias, I largely avoided those who were patients of mine. Both men and women are represented. There are industrialists, employers of labor, personnel managers of large corporations, editors and publishers, judges of the courts, prosecuting attorneys, welfare workers, public health nurses, women on the boards of the Red Cross, Junior League Clinics, Child Care Centers, ministers who frequently serve as personal counselors, a radio station executive, a C. I. O. educational director, legislators, and others. To them I addressed a request for opinion as follows, "The medical profession realizes that its public relations are at fault. Some of the responsible factors are known to us as members of the profession, but the lay public, on and with whom we practice, has a different approach. I am to participate in a conference on Medical Public Relations, in Richmond on December 20th. Would you list on the back of this sheet, the grievances of which you have knowledge, and points in which you feel the medical profession, both as individuals and as a group, fail in their efforts to maintain friendly public relations?

"After all it makes little difference what the medical profession feels, if the lay public feels otherwise. By getting a cross section of local opinion, valuable ideas should be obtained."

The response was nearly 100 per cent, and every reply showed thoughtful consideration of the subject. A few refused to commit themselves in writing but arranged conferences, where I let them do the talking, while I took notes.

The public is concerned with what they feel is the imminent approach to socialized medicine. They do not want the socialization of medicine, but they believe it is coming, and they will not fight the onset. Neither will they help the medical profession to fight, unless and until they see that the medical profession realizes and is making a sincere effort to correct its own faults and clean its own house.

The following are abstracts of the statements made to me. I have made no changes except a few minor ones in the interest of brevity.

There is LACK OF PERSONAL INTEREST in the patient. A scientific attitude, which treats the disease but forgets the individual. Patients feel they are run through the mill mechanically, and the old, friendly, personal attitude between doctor and patient is lacking. There is the feeling that the doctor thinks he is the important factor, "when in reality I am". Doctors do not take time enough to give individual attention, or make careful examinations.

The COSTS OF MEDICAL CARE have mounted to the point that only the rich, or the charity patient, can afford good medical attention. The average individual cannot stand the costs of an operation, or of a lingering illness. The poor man cannot afford to get sick. Surgical fees are exorbitant. Bankruptcies are due to three major factors as items of expense, doctor's bills, hospital bills, and borrowing from loan sharks, and 80 per cent of the borrowing from the loan sharks is for the purpose of paying doctor and hospital bills.

There is OVERSPECIALIZATION which has unduly

*Presented before Public Relations Conference of the Medical Society of Virginia in Richmond, December 20, 1947.

increased the costs, and at the same time rendered it more difficult for the average individual to get medical attention when needed. Excessive expense is involved in referring the patient from one specialist to another. More old-time general practitioners are need. There is too much office work and not enough doctors are willing to make home calls. Overspecialization, and refusal to care for minor conditions in another specialist's field, increases cost by requiring more than one fee. The charge by the referring physician, merely for referring the patient to another specialist, is unjustified. Overspecialization, carried to the foolish extremes often encountered, is compared to the "featherbedding", a vicious, modern labor union practice.

The public is annoyed by the TECHNICAL JARGON used by the medical profession, instead of using simple, understandable terms to patients and relatives. The average patient has not the knowledge the doctor assumes he has.

The public resents the EXCESSIVE INCOME of the medical profession. "All the doctors are buying Cadillacs." The public seems to feel that the profession's interest is in acquiring worldly goods, rather than the patient's salvation. Medical success is measured by the dollar mark.

There is LACK OF INTEREST in the insurance patient. The physician is working for the insurance company. There is refusal to refer the insurance patient to a better qualified specialist, for fear of losing the assured payment from the insurance company.

Doctors do not KEEP APPOINTMENTS. "I wait for hours even though a definite stated appointment is made, and kept by me." The doctor fails to realize that my time is as important to me, as his is to him. "I am led to think that my doctor has made a special appointment to see me, but when I reach his office I find a dozen others have been told to come at the same time."

PROFESSIONAL ETHICS are carried to a ridiculous extreme, and often handicap the patient in the free choice of physician.

Members of the medical profession fail to bear their proportionate part of the load of COMMUNITY ACTIVITIES. The private physician considers his obligation as satisfied by attention to the individual patient and acknowledges no obligation to the problems of community health.

Medical PUBLIC RELATIONS ACTIVITIES are poorly organized and inefficient. Professional men generally do a poor job in public relations, probably because of the prohibition against advertising. There are grievous inaccuracies in the reports of medical meetings, and the profession should prepare and edit such reports. Newspaper columnists signing themselves as M. D. are unduly critical of the practicing physician. *Science Service* releases are premature and misleading. Physicians of reputation should write articles for newspapers and magazines to counteract the impressions conveyed by lay journalists writing pseudo-scientific articles in the lay press. More publicity is needed to publicize the advances in medical knowledge and practice. Medical costs should be publicized in relation to (1) the costs of other public services, and (2) what the public is saved in suffering, invalidism, and life. Publicize hospital costs and faults by emphasizing that the public's failure to support them is responsible. Efforts should be made to create a more favorable understanding of the medical profession by "replacing sentimentality with sense", to assist the public to regard the doctor as a highly trained consultant rather than as a servant.

The medical profession lacks SOCIAL CONSCIOUSNESS. There is an unjustified discrimination against the negro both as patient and as physician. The medical profession refuses to support social legislation extending the coverage and benefits of medical care, implying by their attitude that "Nothing needs to be done; that the situation, as it exists today, is all right; and if a large number of our people aren't receiving medical care,—well that's just too bad."

There are severe INEQUALITIES IN THE DISTRIBUTION OF MEDICAL CARE. "Though I resent socialized medicine I prefer it to the one doctor in 15000 people now existing in some localities."

The public fears SOCIALIZED MEDICINE, and feels that unless the medical profession develops better public relations we will surely be forced into that state. "I wish to make myself plain that I am probably the last person in the world that would believe in the socialization of anything. I do, however, think that the sentiment in this direction is much stronger than most of you in the medical profession realize, and for your own salvation, and for the general philosophy of the American economic system, I hope you will make some real effort toward correcting this feeling."

Some of the suggestions above noted are of dubious value. Others can be explained by frank and free discussion. But, this is what the public is thinking, and it will take a real and effective public relations program to correct these sentiments, and change them into a favorable attitude toward the medical profession. One suggestion, only partially facetious, was that all doctors be required to take an intensive Dale Carnegie course on "How to make friends and influence people."

That is hardly the remedy. What then can we do?

First we can analyze what the public is thinking?

What are the complaints that have been voiced?

A lack of personal interest in the patient. Excessive costs of medical care. Overspecialization, carried often to ridiculous extremes. The use of technical jargon, rather than plain understandable terms. Excessive income of the medical profession, out of proportion to other professions and businesses. Abuse of insurance practice. Failure to make and keep appointments. Foolish and extreme application of the principles of medical ethics. Failure of doctors to carry their proportionate load in community activities. A poor, unintelligent public relation program. The lack of social consciousness on the part of the medical profession. Inequalities in the distribution of medical care. A definite fear that socialized medicine will result if the abuses are not corrected, and corrected promptly.

To many of these complaints we can plead guilty, and it is only when we acknowledge our faults that we reach the mood where we are ready to take effective action. There is great merit in the old evangelical principle that salvation only follows repentance.

Some of these things can be corrected only by planning, and execution on the higher organizational levels, but many of them are matters which must be brought to the attention, and corrected by the local society, and the individual physician. The most important and the most convincing Public Relation activity is that which takes place at the local level. There are two approaches at that level. One, and probably the most important, is the contact of the individual doctor with his patient.

THE INDIVIDUAL APPROACH. The patient's problems are personal. Whether it is toe or head ache, whether the cause is infectious, circulatory, or emotional, the patient complains of symptoms which are of extreme importance to him. He will generally cooperate and be appreciative if he is treated as an intelligent human being. If appointments are promptly kept, or if that is impossible, reasonable explanation and apology is made; if careful study and examination is given; if reasonable explanations are offered to the patient; he will in most instances have confidence and give cooperation. But if he finds himself in a crowded office, is forced to wait long periods although he had a definite appointment, if he is rushed in and out of the office with little opportunity to explain his symptoms and no more for examination and study, given a prescription, without explanation of the condition, the treatment or the prognosis; he will consider the charges for such services to be excessive, and feel that perhaps state medicine can offer as much. If he leaves that doctor's office and becomes an advocate for state medicine I would not blame him. After all, private medical practice has one big assurance to offer, and that is personal and personalized service. If the patient is treated as just another in a production line in the private physician's office, he might as well go the whole way and have the relatively painless deduction from his pay envelope to pay for production line state medicine.

PARTICIPATION IN COMMUNITY ENTERPRISES OF MEDICAL INTEREST AND IMPORT should be both the duty and the privilege of the private physician. Too frequently do doctors fail to take an active interest in the operation of local organizations which are concerned with medical care, or which have medical interest and contacts. Later, after failing to participate in the organization and operation of such agencies, they are very free in their criticism of features of the operation of which they do not approve. Of course participation takes time, but it is worth it. In the past, members of the medical profession demonstrated a totally unjustified aloofness from mundane affairs. Such an attitude was not justified then, and certainly cannot be justified now.

MEDICAL FEES are the concern of every member of the profession. Nothing receives wider comment than a report of an excessive charge which has worked hardship. It is unquestionably true that many fees are too high. No fairminded physician will deny that. It is not only the big fee which may be excessive. But, to leave out the matter of

the excessive fee which is disproportionate to the service rendered, there remains the incontrovertible fact that good medicine is expensive, and is becoming more so. Hospital beds, nursing care, laboratory and x-ray services, and expensive therapeutic procedures, are more and more essential as medical knowledge grows. It cannot be denied that the costs of illness constantly mount to levels above the ability of very large groups of the population to meet without assistance. Governmental assistance is suggested, on the basis of compulsory taxation. Few of us believe that to be the acceptable remedy, and we can suggest another, and a better.

The individual physician should, even must, help his patients to secure voluntary insurance to meet the catastrophies of serious illness. Only by such means can the wage earner, or average white collar worker, meet the heavy costs of illness. We, as private physicians, have a vital role in spreading the number of those covered by the Blue Cross and Blue Shield plans of prepaid hospital and medical care.

Other means of influencing public opinion to a more favorable attitude toward the medical profession can best be utilized through the activities of the LOCAL SOCIETIES. The number and variety of those efforts will depend upon the initiative and energy of the membership.

GROUP MEETINGS should be arranged. Local organizations patterned on the Virginia Health Council should be organized in each community. In meetings of such groups can be discussed medical needs and problems, facilities and services, tuberculosis control, Red Cross cooperation, mental hygiene programs, rural medical needs, crippled children's activities, dental services, cancer control, prenatal and maternal health problems, nursing care, and all the various activities which center on or closely affect the medical profession and its activitites.

LOCAL ORGANIZATIONS AND CLUBS should be encouraged to have programs of medical interest and speakers should be provided. Woman's Clubs, the civic luncheon clubs, parent-teacher organizations, labor unions, veteran organizations, colleges and schools, home demonstration groups, all the numerous organizations which are so characteristic of American life, are constantly in search of programs and speakers. The local medical society and its members are missing a great opportunity and failing in their duties, if they do not encourage and participate in the presentation of medical topics to such representative groups.

The medical profession has nothing to sell but service. And, as a corollary, the medical profession can speak with authority only on the subject of medical services. The public is interested in our problems only as they relate to their own personal lives and situations. We have no vested interest that anyone is bound to respect.

Our needs are basically two. First, to provide good medical services, and, second, to demonstrate conclusively to the public that the services we provide are the best, and will continue to be the best, under the present system of free and untrammelled private practice of medicine.

That can only be done if the profession is fully alerted to the actual emergency which exists. It can only be done if we see the dirt in our own house, and institute prompt cleaning. The very best in public relation efforts are required, and the most effective are those which take place at the level of the individual with his patient, and the local medical society in the community.

1008 Allied Arts Building.

MANAGEMENT OF DIABETIC COMA*

JAMES H. SMITH, M.D.,
Richmond, Virginia.

For present purposes we may speak of diabetic acidosis and coma under the same heading, the difference being one of degree, that difference being important, of course, as bearing on prognosis.

The first idea that I want to express is that we are dealing with an emergency. There are still too many deaths from diabetic coma, just as there have been too many since insulin was introduced in 1922. I think that is true because of the failure to use insulin in patients who require it, a failure of patients who are taking insulin to carry through with its use in some intercurrent illness, and the failure to recognize impending acidosis and to treat it promptly. I think the reason for these failures is that since the very beginning we have tended to make the subject too complicated. As a result, many practitioners have been frightened off, or feel it impossible to devote the time necessary for the subject and have failed to prescribe insulin when it is needed. If that is true, the remedy for the unduly high mortality should come through an effort to simplify the management of these conditions and to so educate both the physician and the patient along lines simpler than those we have followed so long. I think there is a definite tendency now toward that simplification. In this discussion I shall, I'm afraid, present my subject in a manner which most any expert in diabetic management would think over-simplified.

I believe that it is possible for almost any practitioner, if it should be necessary, to treat diabetic acidosis or coma at the bedside without access to any elaborate laboratory facilities at all. If he approaches the case as he would a woman in labor, determined to stay closely at the bedside and see it through, the equipment need be hardly more than a catheter, reagents for testing the urine, and an ample supply of the quick acting insulin, to which Dr. Jordan referred as the only one to consider in coma. I do not mean to minimize the helpfulness of a competent laboratory to determine the blood sugar and to determine the CO_2 combining power. Those things are helpful, but I do think it is not going too far to say that, if it should be necessary, a case might be successfully treated without either one. You may feel that without a blood sugar determination as we go along, the blood sugar will possibly be abnormally high too long. Actually, I think it matters not how high the blood sugar may be while we are treating acidosis. We may emphasize that now we are treating acidosis and not diabetes. The point about blood sugar that we want to keep our eye on is that it doesn't go too low, as Dr. Jordan emphasized in one place. And by frequent examination of the urine we are reasonably safe-guarded against that complication.

Putting it as simply as I can, I think the treatment of diabetic coma is to give insulin promptly, plain insulin, and to give enough of it, in divided doses. There are other things of importance, but that is of so much more importance that I would be willing to disregard the others if necessary to get that emphasis.

The question comes as to the dose. I was pleased to hear Dr. Jordan speak in terms of relatively small doses, at least not in terms of the large doses we sometimes hear advocated. If we are dealing with coma, I think it is rather immaterial whether we begin with 40 units or 50 units or 60 units. I think it is rarely advisable to begin with larger doses, at least unless we have the backing of laboratories for examination of the blood. Perhaps as good a figure as any to have in mind for adults would be 50 units, always remembering that we intend to remain there and to repeat it promptly. How promptly? Well, ordinarily a second dose would be indicated perhaps within 30 minutes or maybe an hour, all of this being based upon examination of the urine for sugar and ketones as we go along. It is not infrequent to hear it said that the patient should have perhaps two or three hundred units within the course of 2, 3 or 4 hours. I don't doubt that some of them would need those larger figures, but I also believe that we work very satisfactorily in many cases with a total in the first three or four hours of not over 150 units, 200, and sometimes as little as 100.

There are several points about the management of diabetic coma on which not every clinician is agreed. One of those is the question as to whether

*Read at the Symposium on Therapy, February 18-19, 1947, Medical College of Virginia, Richmond, Virginia.

glucose should be used. It is undoubtedly a neater job, I suppose, to overcome diabetic coma without putting glucose into the patient. For my part I feel more comfortable in giving the dosage of insulin that seems to be indicated if I know that I am, myself, buttressing that insulin with a reasonable supply of glucose. And I repeat that I don't think it matters at all how high the blood sugar goes. So that, perhaps not at the first dose of insulin but shortly after, the 2nd or 3rd, we are apt to give glucose. That can be either in the more concentrated form, intravenously, or it can be in the weaker glucose solution with a view to the fluid supply we want to give. If the patient is not comatose and not vomiting, oral administration of some simple sugar such as orange juice is suitable.

Another question on which there is by no means universal agreement is the use of alkali. Many excellent clinicians make it a routine practice to administer alkali in diabetic coma. I do not think I am familiar with any results that are proven to be better than in a series of comparable cases in which it was not used. There are certain cases which I would describe as failing to improve under the management without alkalis, in which we might suspect that there was a type of acidosis of a different kind from the ketone acidosis, that kind represented by muscular metabolism, in the old days referred to as lactic acid acidosis, and in the event that we do not get the response and have reason to suspect that there is a mixed type of acidosis, then I think the use of alkali is definitely indicated.

There is another point on which large figures are frequently mentioned and that is the matter of fluids. Undoubtedly these patients are usually greatly dehydrated and they definitely do need fluids, but I think it is well not to disregard what we have thought of as contra-indications toward over-loading the circulatory system, and that is going to apply more especially if the patient comes in the elderly group and has the kind of circulation that demands more respect than in younger people.

As to gastric lavage, if the patient is vomiting I think it is helpful, in which case we might very well use a saline solution and leave some of the solution in the stomach with the idea of replacing lost chloride. But, unless there is vomiting, I think that there is no special advantage in the gastric lavage.

We not infrequently, perhaps usually, see improvement in the laboratory tests, a disappearance of the ketone bodies from the urine, a rise of the CO_2 of the blood, prior to any great improvement in the bedside picture. But when these laboratory improvements show themselves, I think ordinarily we can feel pretty confident that the clinical improvement will follow along shortly in the wake.

Having reached that point, then we begin to take up the idea again that we are dealing with the treatment of diabetes mellitus and proceed gradually to ease in on the dietary regime suitable for that individual patient and the regular spacing of doses of insulin, perhaps a return to protamin zinc instead of the quick acting type.

Not particularly with regard to the therapy of diabetic coma which I am supposed to talk about, but on the diagnostic side as bearing on diabetic coma, let me say roughly that the symptoms of diabetic coma come under three main headings: respiratory, as represented by the Kussmaul type of breathing; the cerebral, as represented by irritability, stupor, coma; and the abdominal, nausea, vomiting, abdominal pain, and fever. Now here is a point I want to bring out: Whether or not it is due to dehydration, there is something that in certain of these diabetic acidosis cases causes a leukocytosis. That fact has been recognized by numerous competent observers. Now, when you add leukocytosis to nausea, vomiting, abdominal pain, and fever, you certainly have a situation which will make you scratch your head as to whether or not you have a patient with an abdomen that requires surgery, and that can be a very awkward decision to make. I think the classical reliance that the surgeons put upon the matter of tenderness and rigidity is probably the best point on which to resolve that dilemma, as to whether you have a patient with a surgical abdomen whose diabetic coma may indeed have been precipitated by something like an acute appendix. If there is tenderness and rigidity, then I believe that just as soon as the acidotic state will permit, it is better to assume that the patient does have a surgical abdomen and treat is as we would in another patient.

But, again, I think that the matter of diabetic coma turns around the prompt use of insulin, and its administration in adequate quantities in divided doses.

BLOOD DISTURBANCES AND ANURIA RESULTING FROM SEVERE BURNS

PETER J. DEVRIES, M. D.,
AND
HORACE ALLEN ALBERTSON, M. D.,
Department of Surgery, Jefferson Hospital,
Roanoke, Virginia.

Disturbances in blood physiology and associated kidney dysfunction are dreaded complications of severe burns. These complications are closely linked with abnormalities of the plasma hematocrit and electrolyte balance. Some of the more recent work relating to the disturbances of fluid balance in the body should furnish a clue as to the most effective method of treatment. These observations which we shall make are valid for severe burns.

By the use of radioactive sodium, Fox and Keston[1] have shown that there is an increase in the sodium content of injured tissue—including burned skin. This increase is over and above the amount of sodium which accompanies the edema fluid and, therefore, indicates an increase in the intra-cellular sodium content. In severe burns, as much as one-half of the extra-cellular sodium of the entire body (the sodium of the plasma and the interstitial fluid) may be made unavailable for the body's normal use because of fixation in the injured tissue. The volume of circulating plasma depends to a great extent on the total volume of the extra-cellular fluid and the concentration of the sodium. With the loss of this extra-cellular sodium as "burn sodium", the extra-cellular fluid is immobilized as edema, and thus one-half of the extra-cellular fluid may be removed from circulation. This edema occurs not only at the site of the burn but throughout the body, i. e., in the liver, lungs, and other tissues.

There is a second indication of the disturbance in sodium balance, namely, the urinary retention of the sodium ion. Rosenthal[2] found that the body retained as much as 20% of the body weight of isotonic sodium chloride solution during the first two days following a burn. This isotonic saline is retained because of the body's need for the sodium ion. Excretion of sodium did not return to normal until ten to twenty days following burns. This accumulation of sodium could not be blamed on anuria, as some might suggest, because, while this retention occurred, an excess of potassium was excreted. This potassium was twice the amount released from traumatized tissue.

Because of the redistribution of the sodium ion and the loss of fluids into the tissues, the burned patients develop a thirst. If this thirst were to be slaked according to the patient's desire for fluids, they would be in danger of developing water intoxication. The mechanism of water intoxication is this: When water is ingested by mouth or given as glucose in water intravenously, there is a retention of extra-cellular water because of kidney dysfunction. Since there has been no corresponding intake of salt, the extra-cellular fluid becomes hypotonic. The cell wall is a semipermeable membrane which selectively passes water and salts. Within the cell is an isotonic solution made up primarily of potassium and magnesium salt. In order to establish equilibrium, the intact cell wall does not pass the potassium across the membrane but rather distends itself with an effort to take on the water from the hypotonic extra-cellular fluid and thus establish equilibrium. The systemic results are headache, dizziness, vomiting, cramps, convulsions, and finally death. Moyer[3] found in dogs that had been burned and given serum intravenously and water by mouth, *ad lib.*, that the autopsy findings, after the animals had died in convulsions, were extreme hydration of all tissues. When the brain was sectioned, water dripped from the boggy, cut surface.

This condition is accompanied by a derangement of the chloride ion. One of the men who observed the significance of the chloride ion was Trusler[4]. He treated a severely burned two-year old child with water by mouth to relieve thirst and when the child died with convulsions, the blood chlorides were found to have dropped to a level of 140 mgm. per cent. Trusler carried the work over into experimentation with dogs and found in many cases of severe burns a fall in the plasma chlorides. His work records nothing of the disturbance to the sodium ion. There was probably an accompanying

fall in the sodium ion or the patient would have had very severe alkalosis.

The increased excretion of potassium has already been mentioned. As the result of the selective action of the semi-permeable cell membrane in accordance with Donnan's principle, the potassium ion is the primary cation within the cell, while outside the cell the primary cation is sodium. The cell membrane is a delicate structure and with the injury from the burn the membrane loses its ability to retain the potassium ion which passes out into the extra-cellular fluid to be replaced by the sodium ion which passes into the cell.

Rosenthal[2] has found that the amount of potassium released into the circulating blood following a severe burn is a quantity greater than the normal potassium content of the burned area. This amount is sufficient to cause death in animals in shock. He has found that shocked animals are six to nine times more sensitive to potassium than are normal animals. He wondered if perhaps it was not a general increase in sensitivity. Other cations were injected, but there was no evidence of a generally increased sensitivity. On the basis of this work, Rosenthal attributes a great part of the toxicity of burns to the increase in the potassium ion in the circulating blood.

It is quite generally agreed that following a burn the values for the formed elements of the blood are involved in a biphasic fluctuation. Accompanying the loss of extra-cellular fluid into the tissues is an increase in the hematocrit reading and, of course, the resultant increase in the hemoglobin percentage. The general impression is that the loss of extra-cellular fluid results in a percentage increase of the volume of the red blood cells. Berman[5] found that in dogs which had been splenectomized before burning, the hematocrit and hemoglobin readings were much lower than in normal animals which had been burned. At autopsy the unsplenectomized animals were found to have very contracted spleens. This would indicate that perhaps the contraction of the spleen is a much more significant factor in the elevation of the hematocrit than the loss of circulating plasma volume.

Following the shock phase of severe burns the hematocrit goes into a gradual decline. The hemoglobin returns to normal and then gradually recedes to an anemic level. This anemia increases because of three factors:

1. The reabsorption of the edema fluids.
2. Primary destruction of red blood cells at the site and time of burn.
3. Increased fragility of the red blood cells due to sepsis, toxins, etc.

Probably the most intriguing and controversial question in burn physiology relates to the fate of the blood plasma. The initial shock period following burns is characterized by a proportionate loss of plasma volume, indicated by the rise of hemoglobin percentage and the increased hematocrit. Part of this disproportion may well be accounted for by the increase in the number of circulating red blood cells from contracture of the spleen, as has already been mentioned. A second cause contributing to the loss of circulating blood volume is the redistribution of the sodium ion and consequent loss of circulating fluid as edema.

Another factor which has generally been conceded an important role in the increased hematocrit is the loss of protein and fluids from burned surfaces. Treatments directed against such loss have included pressure dressings and multiple infusions of plasma to replace the protein losses. More recently this latter procedure, namely, the administration of large amount of plasma, has come under question. Fox and Keston[1] suggest that the loss of the plasma to the injured tissue is a questionable factor. In the case of a dog with an injury to the leg, there was a weight gain of only 69 gm. in the injured leg while blood chemistry determination indicated a 700 cc. loss of circulating plasma, ten times the weight gain of the leg. They go on to suggest that the protein lost in the fluid from injured tissue comes from the tissues themselves. In healthy subjects, the protein of the body is confined to the vascular bed and in the intra-cellular spaces with osmotic equality between these two and the interstitial fluid. The electrolytic solutes are present in so much greater amounts than the proteins that the latter have little significances in the control of the amount of water present in body compartments. The plasma protein concentration does not determine the plasma volume. As evidence, water and electrolytes can be drawn from the body by means of peritoneal injection of hypertonic solutions. There is a resultant fall in plasma volume when water and electrolytes are drawn into the peritoneum and out of circulation. The total plasma proteins are not disturbed. The plasma volume, however, is not re-

stored by the administration of plain water. This would seem to indicate that it would be of little use to administer plasma without administering isotonic electrolyte fluids as well.

Clinical evidence has borne this out. Fox[6] reports that the hemo-concentration of shock could not be successfully treated with plasma albumin. Rosenthal[2] states that the only good effects from serum administration were from the electrolytes of the serum. Serum albumin was reported as inferior to saline.

In view of all these factors, i. e., the loss of sodium ion, the increase in potassium ion concentration, the increased hematocrit and the fall of plasma volume, what is to be the treatment of the shock phase of severe burns? Efforts should be directed at replacing the sodium ion, inducing the excretion of potassium and other toxic products and maintaining the plasma volume. In 1945, Harkins, Cope and associates[7] suggested therapy for burn shock which consisted in part of the use of plasma and intravenous physiological electrolyte solution. By physiologic electrolyte solution, they refer to a combination of two parts of normal saline with one part of isotonic sodium bicarbonate. They suggest the use of whole blood only in those with hematocrits below 60 and then the use of 500 cc. of whole blood only with every 1000 cc. of plasma.

Moyer[3] and his associates at the University of Michigan have done some very interesting work with burned dogs. They have devised a standard burn and have used the following methods of treatment:

1. Saline bicarbonate intravenously.
2. Saline bicarbonate and serum intravenously.
3. Serum intravenously and saline bicarbonate by stomach.
4. Defibrinated blood intravenously and water *ad lib* by mouth.
5. Difibrinated blood and saline bicarbonate by mouth.

Of these various combinations there was no doubt that the biggest percentage of survivals were with the use of defibrinated blood intravenously and the saline bicarbonate combination by mouth.

There are three or four comments that should perhaps be made about this therapy. The first is directed at the criticism that patients in burn shock usually are vomiting. Dr. Moyer noted that the movement of salt solution out of the stomach was usually very small for the first hour and a half and many of the dogs vomited. After the blood was given, the rate of the stomach emptying was within the range of fluid movement for normal dogs and vomiting stopped. The second comment is relative to the comparison of intravenous saline bicarbonate and the oral administration of the solution. In the dogs given saline bicarbonate by vein and serum intravenously, the results were either inadequate treatment or death as a result of pulmonary edema and congestion. It was decided that the only safe way to give salt solution was by a route from which the animal could control the rate of absorption itself—either by stomach, rectum, or subcutaneously. The third comment is regarding the use of whole blood in the presence of hemo-concentration. In burned animals a hematocrit of 75 to 80 per cent was maintained for eight to ten hours with accompanying adequate saline bicarbonate intake without any general ill effects or any evidence of damage to the organs on microscopic section. There have been many writers who have lately advocated whole blood in the early treatment of burns. Trusler[4] advocates it as the only way of maintaining blood chemical balance. Corcoran and Page[8] suggest its use with sodium or calcium lactate. Abbott[9] says that the early and frequent use of transfusions is the only way of combating the later secondary anemia. He advocates the use of whole blood and saline. The last comment on this combination is relative to the use of defibrinated blood. Bruneau and Graham[10] have issued a caution against the over use of citrated blood. The citrate radical in the blood forms a complex soluble salt with the calcium ion and few calcium ions are released. The result is tetany because of depressed calcium ions. This same phenomenon of salt formation is given credit for the anti-coagulant properties of sodium citrate, locking up the calcium ion which is essential for blood clotting. These authors have determined five gm. of citrate as the maximum safe dosage in a 125 pound man. Elman and Lischer[11] in experiments planned to prolong the survival time of dogs subjected to hemorrhage found that there was a marked increase in the survival time of dogs treated with heparinized plasma over that of dogs treated with citrated plasma.

We might ask "How often are the kidneys involved in serious burns?" Goodpastor and his associates[12] at the Thorndike Memorial Laboratory

autopsied forty-seven patients with fatal thermal burns admitted to the Boston City Hospital between November, 1942, and July, 1944. Eighteen of the forty-seven showed definite morphological changes in the kidneys at autopsy, which could be attributed to their burns. The renal lesions in these eighteen patients were entirely similar and consisted of:

1. *Tubular casts made up of pigment and desquamated epithelial cells* were found in the ascending and descending loops of Henle and in the collecting tubules. The pigment was thought to be hemoglobin. Shen's work[13] would tend to bear this out.

2. The second lesion noted in the kidneys of the eighteen patients mentioned was *a degeneration and necrosis of the renal tubules.*

3. Also, in about 40 per cent of this group, *regenerating epithelium* was noted which was indicative of repair of tubular necrosis.

Goodpastor and his associates found that in general the N.P.N. was higher and the oliguria much more severe in burned patients who showed kidney lesions at autopsy, than in those who did not.

There is a great deal of similarity between the renal damage produced by burns and that following hemolysis from incompatible transfusions, black water fever and other hemolytic diseases. Also, some features of the kidney involvement in the crush syndrome show some similarity. The common factor in all of these conditions is "an intravascular hemolysis due to sudden and rapid destruction of erythrocytes or muscle cells. The destruction liberates large amounts of hemoglobin or myoglobin and fragments of destroyed cells into the systemic circulation".[14]

The pathological physiology behind true burn anuria or oliguria is a complex thing. It should be pointed out that burn anuria is not due entirely to shock, but shock may be a factor, as we will see later. The anuria due to traumatic and hemorrhagic shock is due primarily to reduced blood flow to the kidneys and not to an organic kidney lesion. In burns there is actual kidney pathology in a certain percentage of cases, plus the factor of shock.

Burn anuria is possibly partly due to blockage of the loops of Henle and the collecting tubules by pigment casts, as described above. Also, undoubtedly, the degeneration and necrosis of the renal tubules plays a part. What causes this necrosis is hard to say. It may be due to the often talked of—never proved—"toxemia" associated with burns.

Corcoran and Page's work[8] on hemorrhagic shock, tourniquet shock and the crush syndrome suggests the possibility that there may also be a renal vasoconstriction of humoral origin in burns. This vasoconstriction coming on in the stage of burn shock, if prolonged, may persist even after restoration of the normal arterial pressure. This, they found, was the case if shock was prolonged in the conditions they studied. It is quite possible that patients who have had prolonged shock from burns may suffer from this same type of renal vasoconstriction even after the shock is relieved.

Several English workers have suggested methods of treatment of the impaired kidney function resulting from crush or compression of the limbs[15,16]. Maitland in 1941[16] referred to some work that Crile did in the early years of this century on the permeability of the renal epithelium to certain salts in isotonic solution. One of these salts was sodium sulphate. Maitland suggested that sodium sulphate be tried in the "crush kidney syndrome". Later he reported a case in which he used it[17].

Best and Taylor[18], in discussing sodium sulphate diuresis, refer to Cushney's work on saline diuresis published in the *American Journal of Physiology* in 1902. They state "The action of sodium sulphate is ascribed by Cushney chiefly to reduced re-absorption. Since the epithelial cells are relatively impermeable to sulphate, it increases the osmotic pressure of the fluid within the lumen of the tubules; the work demanded for the reabsorption of the usual quantity of fluid exceeds the capacity of the tubular epithelium." They further refer to a paper that Eadie and his associates published in the *American Journal of Physiology* in 1932 in which Eadie expressed the opinion that sodium sulphate also increases the renal blood flow and the filtration rate.

Just recently Olson and Necheles[14], of Chicago, have done some experimental work in dogs on the "Effect of Infusion Fluids and Diuretics on the Anuria Resulting from Severe Burns". In their preliminary work they found that the severity of the anuria could be correlated with the degree of hemoglobinemia—or free hemoglobin in the plasma. Also they found that only a severe burn would produce burn anuria in dogs. They tested many solutions and found that plasma would produce a distinct excretion of urine if the plasma hemoglobin was only moderately high. 2.5 per cent sodium sul-

phate was the only solution that they had tested to date that would in all cases stimulate the kidneys to excrete after a severe burn.

A word might be said about alkali solutions. They are widely used in an effort to alkalinize the urine in patients with hemoglobinuria from transfusion reaction, black water fever and crush syndrome. The basis of their use is that it is thought by some, when hemoglobinemia is present and the urine is acid, there is a precipitation of acid hematin in the renal tubules, causing blockage. Maegraith and Havard[19] have warned against the use of alkali therapy in the treatment of black water fever. They state that when the excretory function of the kidney is impaired, the urine may remain acid, even in the presence of a severe alkalosis. This alkalosis is the dangerous thing and may be sufficient to kill the patient. Therefore, they conclude, "intensive alkali treatment of blackwater fever is dangerous and the reasons for its introduction were unsound." Kirsner and Palmer[20] have shown that patients under calcium carbonate therapy for peptic ulcer may develop reduced kidney function while in alkalosis.

In 1945 the Army Malaria Research Unit, Oxford[21], studied the effects of an intensive course of alkali on the kidney function of normal subjects. All of the subjects studied had disturbances in renal function. They concluded that large doses of alkali should not be administered in conditions where renal failure may supervene. Olson and Necheles[11] found that alkali solutions were definitely inferior to sodium sulphate. They were effective in treating the anuria if the free hemoglobin in the plasma was below 1500 mgms. per cent. Above this level sodium sulphate was necessary to start the excretion of urine.

Sodium sulphate in Olson and Necheles experiments was consistently non-toxic. It was a good diuretic and it had the advantage that it preserved the chloride ion; many other diuretics do not. This conservation of chloride ions is, as has already been pointed out, an important factor in the treatment of burns.

It was Olson's work that brought us to try sodium sulphate clinically as a diuretic in a severe burn we recently treated. It was our impression that it worked remarkably well.

CASE REPORT

The patient was a forty-nine year old white woman who, around 5:30 A. M. on March 13, 1947, caught her clothes on fire from an electric heater.

When seen in the accident room shortly thereafter she had second and third degree burns of about 90% of her body. The only areas not involved were small areas of her hands and feet, the scalp, and a portion of her left buttock. It was hard to estimate how much of the burn was third degree, but we thought about 50% was. Autopsy a week later confirmed our estimate.

During her first few hours in the hospital the patient was put in vaseline gauze pressure dressings that covered practically her entire body. She was given 1000 cc. of plasma and 1000 cc. of 5% glucose in saline intravenously and did not appear in marked shock. She was conscious and her pulse was around 80 and of good volume. It was, of course, impossible to obtain her blood pressure because of the dressings.

The patient stated that she had last voided at 2:00 A. M., 3½ hours before she was burned. At 1:00 P. M. she was catheterized and 75 cc. of concentrated urine obtained. A retention catheter was left in.

In the next four hours the patient received 500 cc. of whole blood but she excreted only 4 cc. of urine. At the end of twelve hours she had passed a total of 79 cc. of urine. It was practically certain that most of the 75 cc. of urine obtained at catheterization was excreted between 2:00 A. M., the time she last voided, and 5:30 A. M., the time of her burn. We decided that the patient was in true burn oliguria or anuria at the end of twelve hours from the time of her burn.

It was at this time that we began sodium sulphate therapy.

In the next twelve hours (the second twelve hours after her burn) she received approximately 800 cc. of 5% glucose in normal saline and 2400 cc. of 2.5% sodium sulphate. In this twelve hours she passed 500 cc. of urine.

The N.P.N. the day after her burn was reported as over 120 mg. By the use of sodium sulphate plus plasma, whole blood, glucose and saline, we were able to maintain a urinary output that averaged 1640 cc. per day for the five days between the day of her burn and the day of her death.

Her N.P.N. the second day after her burn was

57 and the day before her death it was 60. It was not checked any more frequently because the severeness of her burn made it almost impossible to find veins. In fact, we had to cannulate her long saphenous vein the day before her death in order to administer fluids.

With sodium sulphate and other fluids we were able to maintain a good urinary output and to reduce and maintain the N.P.N. at a moderate level until the time of death in a woman with 90% of her body severely burned.

SUMMARY

The use of isotonic intravenous sodium sulphate constitutes only a small part of the treatment of fluid imbalance. Its purpose is the induction of diuresis. The trend in primary therapeutic measures directed at the correction of the disturbances in fluid balance would seem to be in the direction of the use of more blood and of defibrinated blood.

The use of the oral route in the administration of fluids seems to be gaining preference over the intravenous route for the maintenance of fluid balance. If to this scheme is added the intravenous use of sodium sulphate in indicated doses, the sodium ion should produce none of the hydration indicated by Moyer. The diuresis produced may be a factor in the early restoration of normal blood physiology.

In many cases of severe burns the selected therapy, no matter what its nature, will do little to alter the fatal termination. In other cases the recovery is assured with any of the more modern methods of treatment. Between these two extremes is a group in which the survival may be entirely dependent on the nature of the treatment, on the restoration of fluid balance and blood volume and on the induction of adequate diuresis to eliminate the nitrogenous waste products that flood the circulation after a burn. It is this group that may be benefited by the addition of an effective diuretic to the more definitive fluid therapy.

REFERENCES

1. Fox, C. L. Jr., and Keston, A. S.: The Mechanism of Shock from Burns and Trauma Traced with Radio Sodium. *Surg., Gynec., and Obst.* **80**:561-567, 1945.
2. Rosenthal, S. M., and Tabor, H.: Electrolyte Changes and Chemo Therapy in Experimental Burn and Traumatic Shock and Hemorrhage. *Arch. of Surgery,* **51**:244-252, 1945.
3. Moyer, C. A.; Coller, F. A.; Iob, V.; Vaughan, H. H., and Marty, D.: A Study of the Interrelationship of Salt Solutions, Serum and Defibrinated Blood in the Treatment of Severely Scalded, Anesthetized Dogs. *Ann. of Surgery* **120**:367-375, 1944.
4. Trusler, H. M.; Egbert, H. L., and Williams, H. S.: Burn Shock. *J.A.M.A.* **113**:2207-2213, 1939.
5. Berman, J. K.; Peterson, L., and Butler, J.: The Treatment of Burn Shock with Continuous Hypodermoclysis of Physiological Saline Solution into the Burned Area. *Surg., Gynec. and Obst.* **78**:337-345, 1944.
6. Fox, Charles L.: Oral Sodium Lactate in the Treatment of Burn Shock. *J.A.M.A.* **124**:207-212, 1944.
7. Harkins, H. N.; Cope, O.; Evans, E. I.; Phillips, R. A., and Richards, D. W., Jr.: The Fluid and Nutritional Therapy of Burns. *J.A.M.A.* **128**:475-479, 1945.
8. Corcoran, A. C., and Page, I. H.: Post-Traumatic Renal Injury. *Archives of Surg.* **51**:93-101,1905.
9. Abbott, W. E.; Meyer, I. C.; Hirchfield, J. W., and Griffin, G. E.: Metabolic Alterations Following Thermal Burns. *Surg.* **17**:794-804, 1945.
10. Bruneau, J., and Graham, E. A.: A Caution Against too Liberal Use of Citrated Blood in Transfusions. *Archives of Surg.* **47**:319-325, 1943.
11. Elman, R., and Lischer, C. E.: Amino-Acids, Serum and Plasma in the Replacement Therapy of Fatal Shock Due to Repeated Hemorrhage. *Ann. of Surg.* **118**:225-234, 1943.
12. Goodpastor, W. E.; Levenson, S. M.; Fagnon, H. J.; Lund, C. C.; Taylor, C. C., and Taylor, F. H. L.: A Clinical and Pathological Study of the Kidney in Patients with Thermal Burns. *Surg., Gynec. and Obst.* **82**:652-669, 1946.
13. Schen, S. C.: Studies on the Destruction of Red Blood Cells. III. Mechanism and Complications of Hemoglobinuria in Patients with Thermal Burns: Sperocytosis and Increased Osmotic Fragility of Red Blood Cells. *New Eng. J. Med.* **229**:701-713, 1943.
14. Olson, W. H., and Necheles, H.: Studies on Anuria. *Surg., Gynec. and Obst.* **84**:283-291, 1947.
15. Bywater, E. G. L.: Ischemic Muscle Necrosis. *J.A.M.A.* **124**:1103-1109, 1944.
16. Maitland, A. L. I.: Crush Injuries (Letter to Editor) *British Med. Jnl.* **1**:570, 1941.
17. Maitland, A. L. I.: Case of Crush Injury with Recovery. *Lancet* **2**:446, 1941.
18. Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice. P. 389, Baltimore, Williams & Wilkins Co., 1945.
19. Maegraith, B. G., and Havard, R. E.: Dangers of Intensive Alkali Treatment in Blackwater Fever. *Lancet* **2**:338-339, 1944.
20. Kirsner, J. B., and Palmer, W. L.: The Role of Chlorides in Alkalosis. *J.A.M.A.* **116**:384-390, 1941.
21. Army Malaria Research Unit, Oxford: Effects of Large Doses of Alkali on Kidney Function. *Lancet* **2**:701-704, 1945.

MEDICAL CARE AND HOSPITAL ADMINISTRATION*

PHILIP S. SMITH, M.D.,
Abingdon, Virginia.

The subject assigned me is Medical Care and Hospital Administration. It is apparent that the two activities are closely related and interdependent. The difficulty in discussing the topic is also apparent because of the many aspects and almost unlimited scope embraced by it. Only a few phases can be considered and they rather briefly—with no claim to originality.

The evolution of hospitals in Virginia parallels rather closely the development of general education in the State. During the early period teaching was largely limited to private tutors, privately owned and conducted schools, and a few state institutions of higher learning. Necessarily only a relative few could afford such training. After the Revolution and establishment of an independent Republic the demand soon arose for a system of education available to the people generally and one that would be supported by the State and local communities open and free to all. Much progress has been made; yet public education is still imperfect and continues to be a matter of much study and planning for further needed improvements.

The history of hospital development and growth in Virginia is similar but of more recent date. Some of us here can remember when there were few hospitals in the State. They were located in the larger cities, at the two medical schools, and the State supported institutions for the insane and tuberculous sick. With the exception of the State and municipal hospitals, the others were privately owned and operated. The public then thought of a hospital as a place of last resort for the sick. In consequence the mortality was high. Most people preferred to die at home in a familiar environment and among loved ones.

In comparatively recent years hospitals constructed and operated by communities on a nonprofit basis have increased at a rapid rate. Public demand has stimulated the change. In fact, today in rural Virginia, hospital facilities and better medical care are regarded as needs only slightly less pressing than improved public education. If any question as to the inadequacy of such health provisions in Southwestern Virginia were raised, a careful examination of the records of the Army Induction Station at Abingdon during the recent war would remove any such doubts. There we saw many young men with remediable physical defects and mental disorders that, if corrected, would have qualified them for military service and a better opportunity for success in civilian life.

However, no one who knows the problems of hospital administration and costs would venture investment of capital in many sparsely inhabited and relatively poor communities in which numbers of those rejected boys live. As a member of a commission established by the Virginia Advisory Legislative Council I had the opportunity two years ago to observe that similar, and even worse, conditions prevailed in other sections of the State. In many areas, though some sort of education was provided, hospital care of the poor was distressingly inadequate or totally lacking.

The chief problem in providing hospital care of the sick in small communities and rural sections is one of finance. A community confronted with the need, even though funds may be available for hospital construction and equipment, must face the probability of recurring annual operating deficits. Private hospitals in cities can refer patients unable to pay for hospital care to municipal institutions without much delay even in emergency conditions. A community hospital in rural areas must accept many such cases. Then, too, during periods of economic depression many not regarded even as medically indigent cannot finance an expensive hospital illness.

Those who have no knowledge of hospital administration have no appreciation of the costs of operating such institutions. They are prone to compare hospitals with hotels. In hotels most of the guests go to the dining room for meals. No laboratory facilities, operating room, X-ray, physical therapy, nursing staff or elaborate clinical records are necessary. Yet hospital charges today are little higher than the rates, including meals, of the better hotels.

*Read by invitation of The Virginia Council on Health and Medical Care, at a conference at Abingdon, December 9, 1947.

Another important item in hospital administrative costs is the expense involved in meeting the standards imposed by such agencies as the American College of Surgeons, the American Hospital Association, and the State Board of Nurse Examiners. No one questions the desirability or necessity of such agencies. An institution charged with the responsibility of caring for ill people should not only be licensed by the State, but should be recognized only if it conforms to the requirements of authorized standardizing agencies. Yet this constitutes a considerable increase in the costs of hospital operation.

During periods of inflation such as we are now experiencing, the administrative problems are greatly accentuated. Every department of the hospital shows rising costs in salaries, wages and supplies of all kinds. Necessarily increased rates must be charged for room, board, nursing care, and many other items. Recently, the Director of Public Welfare of Henrico County reported to his Board of Supervisors that hospitalization cost in January of this year was $6.58 per day; by October first the daily expense was $9.80. In consequence, there are many patients, especially those with fixed incomes, who cannot finance an unforeseen hospital illness at current rates. Yet, they are embarrassed to admit that they belong in the category of medical indigents.

Rural community hospitals in recent years have been helped greatly in caring for the totally indigent by social welfare agencies and more recently by counties matching State funds in the hospital care of this group. For years, however, the welfare payments to our local hospital were considerably less than the actual costs of hospitalization of these patients. Furthermore, because of the limited funds available, only emergency patients could be provided for. At all times, a much larger number of people with less urgent diseases, though frequently barring them from gainful, self-supporting employment, necessarily were denied hospital admission.

The medical care of the poor constitutes a serious financial problem for hospitals generally. Our two large medical school hospitals in Richmond and Charlottesville have been confronted with operating deficits in increasing amounts over a period of years as the result of indigent patients referred to them. In those State hospitals a large number of poor patients are necessary for instruction of medical students. But the financial load has become so heavy that recently President Darden, of the University of Virginia, stated that the funds appropriated by the State Legislature to the University were being spent in such large amounts for the care of the poor patients in the hospital as to cause a serious embarrassment to the other educational departments of the University. He made a strong appeal for a solution of their problem.

Various measures have been proposed.

Socialized medicine has been discredited where tried and will not meet with support of the American medical profession.

Federal aid to the States in helping to care for the indigent carries with it the danger of bureaucratic control, wasteful practices and political dictation.

Hospital insurance contracts voluntarily purchased are commendable and becoming increasingly popular. Yet, they fail to provide protection to those who need it most, since the indigent cannot pay the premiums. A bill pending in a Congressional committee would provide grants of money to the States to aid in the medical care of those unable to purchase hospital insurance. Yet such funds inevitably must be obtained by taxation of the citizens of the several states. From each dollar so collected there must be deducted the heavy overhead costs of Federal administration.

The following conclusions, therefore, seem warranted:

1. The health of the nation's citizens both in peace and war is vital to the national security and economic welfare.

2. At all times in any community, during periods of inflation and depression, there is a large group of indigent and medically indigent who cannot finance an unforeseen and expensive illness.

3. Community hospitals have a serious problem in providing costly modern medical care to the poor in the areas served by them unless they are adequately compensated.

4. The care of the indigent sick is most effective if administered on a local rather than a national basis.

5. The similarity of community needs as regards public education and health has been recognized in recent years. The demand for better and more available local hospital treatment is increasing rap-

idly in Virginia.

6. It is suggested that the approach to a satisfactory solution of the health problem and needs might be undertaken in a manner similar to that employed in financing public education. This suggestion, in part, has already been adopted in Virginia by State appropriations aiding the counties in the hospital care of the indigent. Yet, much larger funds are necessary if the surface is to be more than scratched. No one would advocate that free school education be limited to only a few individuals in a community. To make available hospital medical care to those who need it, but who are unable to pay for it, would entail large expenditures by the State and local communities. Yet, the cost of such a program would probably be considerably less than the cost of public education.

The present plan of the counties, aided by the State, of appropriating annually funds available from county treasuries is not only inadequate but haphazard. A thorough going survey and the experience of a few years of trial would enable the counties to approximate the average needs annually. To provide for such increased appropriations, a county tax specifically earmarked, similar to the present school tax, would be desirable. The tax rate for the care of the medically indigent, like the school tax, would be flexible and subject to change as warranted from time to time. Education of the public to an appreciation of the purposes and needs of the tax would require time and competent leadership. Ultimately the program might be enlarged and extended to the indigent treated in their homes. It is realized that the administrative problems would prove very difficult. Pauperization of those who should not be beneficiaries of the program would bring disrepute to the plan.

It may be argued that a people now burdened with an unprecedented tax load, national, state and local, would rebel against the imposition of an additional special tax. The alternative may well be socialized medicine; indeed in time a socialized state and nation. It can happen here as it has in one-time conservative England. Lenin, of Russia, once stated: "Socialized medicine is the keystone to the arch of the socialistic state."

In conclusion, the poor have their spiritual aspirations supplied by the churches. They are given facilities and opportunities in schools for mental training without cost. But their physical needs have largely been neglected in rural Virginia. Aside from humanitarian considerations our country's welfare and security depend greatly upon the health of its people. An increasing investment in the physical improvement of its poorer citizens will be repaid with interest. The Great Physician nineteen hundred years ago frequently interrupted a busy life to minister to the sick. Can we be satisfied, or afford, to stop short of maximum efforts in an endeavor to promote the physical welfare of our people?

Disinfectant on Handkerchiefs.

Using a disinfectant on handkerchiefs might be one step toward preventing the "common cold" from spreading, according to the London correspondent of *The Journal of the American Medical Association*, writing in the February 28 issue.

Reporting on a lecture by Dr. C. H. Andrewes, F. R. S., of the National Institute for Medical Research, on recent research on the common cold, *The Journal's* correspondent said that "some recent evidence suggested that more unpleasant germs were spread from the nose than from the mouth and throat, which led to the question whether bacteria and viruses accidentally shaken from handkerchiefs might not be of great importance. Tests showed that many bacteria might be shaken out and remain in the air. Handkerchiefs from the later stages of colds were found to be particularly effective as germ distributors. Work now in progress suggested that impregnation of handkerchiefs with a disinfectant might make them much less dangerous in this respect."

INDICATIONS FOR BRONCHO-ESOPHAGOLOGY*

HORACE D. HOSKINS, M.D.,
Lynchburg, Virginia.

It is not my intention to pose before you as an authority on broncho-esophagology, but rather as a neophyte recently become interested in it, and qualified by no more than a certificate from the Chevalier Jackson School of Broncho-Esophagology and a few cases which I have been fortunate enough to see since taking that course.

The bronchoscope and the esophagoscope, like the nasal speculum, Brinkerhoff's speculum for the rectum, Cusco's speculum for the vagina, or Gruber's speculum for the ear, is nothing more than a way of looking into a cavity in the body, and the indication for the use of these various types of specula are very closely related.

If a patient presents himself with a complaint related to the nose, sinuses or naso-pharynx, the use of a nasal speculum is imperative to diagnose and to treat his condition, just as the use of an ear speculum is essential to the diagnosis and treatment of diseased states of the ear.

It would be my pleasure to consider the bronchoscope and the esophagoscope tonight largely as I would think of the nasal speculum. One thinks of foreign bodies as a rule when they think of broncho-esophagology. And while Jackson has collected 3,266 cases of foreign bodies of the food and air passages, ranging from wooden applicators wrapped with cotton to Christmas tree ornaments, I do not feel that the removal of foreign bodies constitutes the principal usefulness of the art of broncho-esophagology, any more than a collection of foreign bodies removed from the nose would constitute the principal usefulness of the nasal speculum—and, I might add, it is seldom that this speculum is used for foreign body extraction, yet few foreign bodies are removed from the nose without its use.

May I be permitted here to use the experience of others in broncho-esophagology, both for diagnosis and treatment of conditions within its scope, and to say that perhaps the most important use of either of these specula is for the purpose of diagnosis.

A patient presents himself with a chronic cough. The diagnosis is bronchitis. The symptoms are chronic cough and expectoration of varying severity. When a careful history, a complete physical, sputum and X-ray studies fail to reveal the cause, bronchoscopy is definitely indicated. Of 92 cases referred to Jackson with the working diagnosis of chronic bronchitis, 40 had localized bronchial stenosis, 4 had bronchial tumors, 21 had bronchiectasis, 7 were tuberculous and only 20 had nothing more than a diffuse mucosal bronchitis. Bronchoscopy in cases of chronic bronchitis is as surely indicated as the use of the nasal speculum in a case of sinusitis.

Atelectasis is a subject of intense interest to all of the surgeons here tonight. Clerf, Brill, Jackson, Tucker and other broncho-esophagologists seem to concur in the belief that atelectasis is due to bronchial obstruction and may be best relieved by bronchoscopic aspiration of the mucus or clot that obstructs the particular segment of the lung involved. This is a relatively simple procedure and one which should be used when indicated.

Imperatori and Burman list the indications for bronchoscopy as follows:

1. Asphyxia neonatorum
2. Unexplained dyspnea
3. Dyspnea unrelieved by tracheotomy
4. Unexplained expectoration of pus
5. Unexplained cough or hemoptysis
6. Acute abscess
7. Chronic abscess
8. Bronchiectasis
9. Asthma (and I might here add that French Hansel notes that Clerf, Lukens, Moore and others are convinced that bronchoscopic diagnosis and aspirations are of great value in those patients who suffer from dyspnea that is asthmatic in origin).

Tuberculosis was at one time considered a contra-indication to bronchoscopy, but this is not true today. At the University of Michigan Hospital, bronchoscopy is employed to confirm suspected tuberculous tracheo-bronchitis, and subsequent bronchoscopies are done to determine progression or regression of the mucosal lesions. Jackson feels that bronchoscopy is only contra-indicated in hopeless cases of tuberculosis. The primary indications for bronchoscopy in definitely diagnosed tuberculosis

*Reading before the Lynchburg Academy of Medicine, May 5, 1947.

may be for aspiration where a peri-bronchial gland has ruptured into a bronchus, to remove a broncholith, to diagnose an ulcer and treat it, to diagnose scar tissue and treat it, or to determine the bacterial flora of an abscess prior to collapse therapy. Jackson has said, "All that wheezes is not asthma" and surely all hemoptysis is not tuberculous in origin. Jackson states, contrary to the general belief, he has found that tuberculosis is not the commonest cause of hemoptysis. He reports 446 cases of non tuberculous hemoptysis with 19 varying etiologies. The commonest in this group was bronchiectasis—138; next, primary carcinoma of the bronchus—82; tracheobronchitis—74; pulmonary abscess—51, and, fifth in order, no evidence of disease—34. I mention this because I have a case in this fifth classification which I will report later. Regardless of the cause, aspiration of blood clots, if not otherwise expelled, is desirable and is a strong factor in prophylaxis of bronchial obstruction, bronchiectasis and pulmonary abscess.

It is generally agreed that hemoptysis constitutes an indication for bronchoscopy, the examination being done as an adjunct to diagnosis. It is another link in the chain of diagnostic and therapeutic weapons to aid us in handling these cases.

The therapeutic advantages of the bronchoscope can be illustrated best by a case which Jackson reports of a 64 year old woman with a productive cough and hemoptysis of long standing, which was diagnosed and treated bronchoscopically. This patient had a lipoma of the left main bronchus, the bronchoscopic removal of which was accompanied by clearing of symptoms and signs.

Tumors, both benign and malignant, are not uncommon in the tracheobronchial tree, and may produce bronchial obstruction with Atelectasis, emphysema, or drowned lung. These conditions can be diagnosed by physical signs and fluoroscopy, but the character of the obstruction can often only be determined definitely by bronchoscopic examination, or, when necessary, by biopsy. So it would seem that in any case of bronchial obstruction the physician might find the bronchoscopic findings helpful.

John Richardson of Boston recently spoke of the wonderful advances that have been made in dental prosthesis. They have now developed them to the point where they are practically impossible to pick up in X-ray, and so can lodge in the esophagus or trachea and produce no obvious findings except cough or dysphagia. Having lost a patient recently from perforation of the esophagus by one of these radioparent appliances, he advised that the patient with dysphagia be very closely studied before assuming that he was a neurotic. Here the esophagoscope is an adjunct to the other means of diagnosis and has proved its usefulness time and again.

Any complaint referable to the esophagus certainly justifies an X-ray examination and, if the diagnosis can not be satisfactorily made from this, endoscopy is indicated. In 1938, roughly 2500 people died from cancer of the esophagus in the United States, and cancer of the esophagus can only be diagnosed early by means of X-ray and the esophagoscope. Early cancer of the first few centimeters of the cervical esophagus has been satisfactorily removed by lateral pharyngectomy and cancer of the lower one-third of the esophagus is being removed by the thoracic surgeon, if and when they are diagnosed early. The lack of symptoms or signs in early carcinoma of the esophagus is largely responsible for late diagnosis. The sensation we have come to know as globus hystericus is often the only one the patient experiences early, and, while all globus hystericus is not cancer but is rather in most cases a purely neurotic symptom, the fact it is so often associated with some lesion justifies our use of X-ray and the esophageal speculum in all of these cases.

Dysphagia, the one common symptom of all esophageal disease, is often ignored by the patient until it is too late. Pain, too, is a relatively late symptom.

All dysphagia is not cancer, any more than it is all globus hystericus. Ulceration of the esophagus, stenosis, web formations, and benign tumors all have to be reckoned with by roentgenology and by endoscopy.

Foreign bodies of both bronchi and esophagus are today occupying a far more important place in the field of broncho-esophagology than they will in years to come. Their removal remains a spectacular and dramatic use of thsee specula. Murdock Equen, of Atlanta, Georgia, has recently developed a magnet for removal of metallic magnetic foreign bodies which can be inserted through the laryngoscope with less trauma and less discomfort to the patient.

The General Electric Company has developed a

modification of the mine detector so useful in the last war. They call it the Berman metal locator. It is used in determining whether or not the foreign body is magnetic and this has lessened the danger attached to the removal of magnetic bodies.

Since I have been interested in broncho-esophagology, I have had occasion to examine nine patients. One of these was a laryngoscopy in which I found nothing more noteworthy than a contact ulcer, which was not viewed satisfactorily with the laryngeal mirror. Five were bronchoscopic examinations, one of which had a diffuse thickening of the right main bronchus, with narrowed lumen and fixation, with marked widening of the carina. The history of this case suggested metastatic carcinoma and the bronchoscopic appearance was in accord with the suspected diagnosis. Another case presented a marked narrowing of the lumen of the trachea with deplacement to the left. This patient had a substernal thyroid and is at the present time in the hospital awaiting surgical removal.

Another quite interesting case was that of a white female, age 21, who came into the office coughing up considerable quantity of bright blood. This condition was only a few hours old. X-ray revealed no positive evidence of tuberculosis. This girl was hospitalized, but given no sedation. Five days after the hemoptysis cleared up, and with small series of negative sputum examinations to her credit, she was studied with the bronchoscopic speculum. All findings suggested the normal. However, a specimen of secretion was taken from the right and left main bronchi for guinea pig injection. Two months later the pig is still quite well. The girl is gaining weight, at work and feeling fine.

I won't go so far as to say this patient does not have tuberculosis, but I do feel that the specular examination of her bronchial tree and obtaining specimens from the area most likely to yield the tuberculosis organism have had a worthwhile, reassuring effect on both the patient and the physician alike.

Three of my cases have been studies of the esophagus, done by reason of vague complaints referred to this area. All patients are at present well and all are symptom free, following assurance that they have not cancer of the esophagus though all are being kept under observation.

Esophagoscopic dilatation of what is generally called cardiospasm is the ideal treatment. I say so-called cardiospasm because most of the work points to this being fibrosis or structure due to healed infection rather than a nerve involvement.

Diagnosed early and treated early, these cases respond well to endoscopic treatment.

Even the far advanced cases, in which the esophagus is much dilated and sags markedly to the right, may be cautiously dilated, though this condition usually indicates gastrostomy or anastomosis of the esophagus to the fundus of the stomach.

One of my cases was a white female, age 63, who had complained of not being able to swallow solid food for several months. I was certain there would be some demonstrable pathology, but none was found, though the scope was passed to the stomach. This woman has since eaten anything she wanted and has had no further difficulty in a period of five months. It is possible the mere passage of a 9 m.m. scope produced sufficient dilatation in this instance to give relief, although no pathologic constriction was noted.

In no instance have I found the passage of either bronchoscope or esophagoscope to do any harm, and I feel strongly that any chronic, persistent ailment, involving the esophagus or tracheo-bronchial tree should have the benefit of direct specular examination of the part involved before the examination is considered complete.

BIBLIOGRAPHY

1. Jackson, Chevalier L.: Haemorrhage from the Trachea, Bronchi and Lungs of Nontuberculous Origin. *Amer. Rev. Tuberculosis,* **XLVI**, No. 2, August, 1942.

2. Jackson Chevalier L.: The Treatment of "Cardiospasm". *Archives of Physical Therapy, X-Ray, Radium,* **XV**, March, 1934.

3. Jackson, Chevalier L., and Brady, John V.: Criteria for the Selection of Treatment of Cancer of the Larynx. *Arch. Otolaryng.* **37**, May, 1943.

4. Jackson, Chevalier, and Jackson, Chevalier L.: Benign Tumors and Tumor-Like Conditions in the Tracheobronchial Tree. *Amer. Jour. Surg.* October, 1938.

5. Jackson, Chevalier L.: Indications and Technic of Bronchoscopy. *Jour. Internat. College of Surg.* September-October, 1943.

6. Jackson, Chevalier L., Konzelmann, Frank W., and Norris, Charles M.: Twenty-Fifth Annual Meeting of the Amer. Asso. for Thoracic Surgery, May 5 and 6, 1944.

1105½ Church Street

A CLINICAL REVIEW OF PAPILLARY ADENOCARCINOMA OF THE OVARY*

GEORGE SPECK, M. D.,
Arlington, Virginia.

That carcinoma of the ovary has been written about voluminously implies in itself the importance of the problem. Not only is this neoplasm insidious in its onset, but, also, it is the unanimous agreement between clinicians and pathologists that this disease, of all pelvic malignancies which occur with any degree of frequency, offers the poorest prognosis. Furthermore, carcinoma of the ovary is not uncommon, ranging from 15.4%[12] to 36%[3] of all ovarian neoplasms and 13.3%[3] to 17.10%[12] of all pelvic malignant neoplasms. In a ten year series of cases, from 1932 to 1942, at the Bellevue Hospital in New York City, it was found that carcinoma of the ovary occurred in approximately 33% of all ovarian neoplasms.

Thus, the frequency of carcinoma of the ovary compares significantly with that of other pelvic malignancies, ranking next to malignancies of the cervix uteri and corpus uteri. According to Marchetti[12], 44.44% of all pelvic malignancies arise in the cervix uteri and 33.62% in the corpus uteri. In addition, the commonest malignant neoplasm of the ovary is the papillary adenocarcinoma which occurs in approximately 62% to 83% of all ovarian malignancies[3,7,9,12,17,]. The latter figure was found to be true in this study.

MATERIAL

The patients used in this study were those in whom the original diagnosis of papillary adenocarcinoma of the ovary was made histologically by three pathologists and rechecked by the author and Dr. Studdiford for this report. These patients were operated upon between the years 1932 and 1942 by members of the gynecological staff at Bellevue Hospital. Twenty-five such patients were found.

CLASSIFICATION

These 25 patients were divided into two main categories: 13 with tumors histologically classified as of "low grade malignancy" and 12 of "high grade malignancy". Grossly, the tumors of "low grade malignancy" showed perforation of the capsule with or without superficial implants on the peritoneum. Microscopically, there were well-formed papillary processes with no evidence of invasion into the central core of stromal tissue. The cells covering the papillary projections showed fairly advanced differentiation, hyperchromatism, pleomorphism, mitotic figures and some piling up. The stroma varied from a dense fibrous connective tissue, sometimes hyalinized, to a delicate embryonal type of connective tissue resembling Wharton's jelly. At times psammoma bodies were present. In some cases, it was difficult to make up one's mind as to whether there were any definite malignant changes present, but with the tumor breaking through the capsule or peritoneal implants, they were considered to be of low grade malignancy. Furthermore, in examining the implants, they were found to be superficial structures with no invasion into the tissue to which they had become parasitic.

The tumors of "high grade malignancy" showed epithelial changes which were definitely and unmistakably malignant with invasion into the cores of the papillary processes and varying degrees of anaplasia. Examination of the implants also showed deep invasion into the tissue to which the papillary growths had become attached.

In this series of cases, the over-all mortality rate was 56.0% and almost three times higher in the group of "high grade malignancy" (83.3%) than in the "low grade malignancy" (30.8%).

	No. of Patients	Mortality Rate
Low Grade Malignancy	13	4* (30.8%)
High Grade Malignancy	12	10 (83.3%)
Total	25	14 (56.0%)

*2 of the deaths not directly due to the original tumor.
1 patient died from intestinal obstruction 4 years after treatment.
Other patient died from meningitis secondary to an ulcer over sacrum 7 years after treatment.

AGE

Practically all investigators[3,4,6,7,9,10,12] have found that about 70% of their patients with carcinoma of

*From the Obstetrical and Gynecological Service (Third Surgical Division) Bellevue Hospital, and the Department of Obstetrics and Gynecology, New York University College of Medicine.

I wish to express my gratitude to Dr. William E. Studdiford, Director, for his advice in the preparation of this report.

the ovary fall in the age group of 40-60 years. This is thus definitely a disease of the middle age. However, there are wide extremes, the youngest being 13 years[6] and the oldest, 86 years[9]. In this series, limited to papillary adenocarcinoma, the youngest was 24 years and the oldest 63 years, with the average age 44.6 years. Interestingly, it was found that in the low grade malignant group 46.2% were under 40 years and that in the highly malignant, only 1 patient (8.5%) was under 40 years of age. Also, of those who died, only 2 were under 40. Thus, it seems that those with papillary adenocarcinoma of the ovary and who are over 40 years of age have a less favorable prognosis since in these cases the tumors tend to be more malignant.

	Age Extremes	Average Age	Total No. of Deaths	Died Under 40	Died Over 40
Low Grade Malignancy	24-60 yrs.	41.5 yrs.	4	1 (25%)	3 (75%)
High Grade Malignancy	39-63 yrs.	47.8 yrs.	10	1 (10%)	9 (90%)
Total	24-63 yrs.	44.6 yrs.	14	2 (14.3%)	12 (85.7%)

RACE

In this series papillary adenocarcinoma of the ovary was found to be more prevalent among the whites, especially those tumors of high malignancy. It was also found that the mortality rate was higher among the whites. The population on our wards was usually fairly evenly divided between white and colored patients.

	Total No. of Pts.	White	Mortality Rate	Colored	Mortality Rate
Low Grade Malignancy	13	9 (69.2%)	3 (33.3%)	4 (30.8%)	1 (25%)
High Grade Malignancy	12	12 (100%)	10 (83.3%)	0	0
Total	25	21 (84%)	13 (61.9%)	4 (16%)	1 (25%)

MARITAL STATUS AND FERTILITY

In this series 92% of the patients were married. It was found that 17.6% of the patients were sterile, or 41.2% if we include those patients who became pregnant but aborted and never bore a live term infant. These figures compare favorably with those of other authors[3,7,9,17].

	Married	Parous	Gravid but Never Parous	Sterile	Total Infertility
Low Grade Malignancy	12 (92.3%)	8	1	3	4
High Grade Malignancy	11 (91.7%)	5*	3	0	3
Total	23 (92%)	13	4	3 (17.6%)	7 (41.2%)

*Parity of 3 additional patients not determined.

SIGNS AND SYMPTOMS

Crossen[14] aptly summarized the early signs and symptoms when he called carcinoma of the ovary "silent". All investigators are in agreement that one of the greatest contributing causes to the lethal nature of this disease is the fact that there are *no* definite early signs or symptoms which would bring the patient to the physician. When definite signs or symptoms are present, they are indicative generally of a far advanced stage of the tumor. In practically every report[3,7,10,12] in which this phase of the disease is reported there are two symptoms which bring the patient to the doctor: abdominal pain and swelling of the abdomen—but both occurring in those cases where the disease has been present for some time. The other symptoms are gastro-intestinal disturbances menstrual disturbances, backache, bowel or urinary disturbances. In the majority of the cases the patients have no menstrual disturbances and the few changes which may arise are variable and not characteristic.

The duration of symptoms from the time they were first noticed by the patients to the time they entered the hospital, varied from 3 weeks to 2 years. There was no correlation between the duration and the histological classification. However, as can be seen below, in the low grade malignant group, if the patient sought medical attention within a year after the onset of the symptoms, a favorable prognosis was enhanced. In the highly malignant group, it made little difference what the duration was.

Duration of Symptoms	Low Grade Malignancy		High Grade Malignancy	
	No. Patients	Mortality	No. Patients	Mortality
3 weeks			1	1 (100%)
2 months	1	0	2	1* (50%)
3 months	2	1† (50%)	2	1 (50%)
6 months	1	0		
10 months	1	0		
1 year	3	2‡ (67%)	2	2 (100%)
2 years	1	1 (100%)	1	1 (100%)

*Other patient could not be traced.
†Death not due to original malignancy.
‡One death not due to original malignancy.

HISTOGENESIS

The theories advanced as to the etiology of papillary adenocarcinoma of the ovary are several[15,16]. They are: primary from the germinal epithelium covering the ovary, and secondary, from an endometriosis of the ovary or from a previous benign cystadenoma. It is quite possible that there is no one etiology but that malignant changes may arise from any of the above. If this be so, then the prevention of these malignant changes would be of primary importance. In those cases where the tumor is primary, nothing can be done except to make an early diagnosis However, Lynch[3] suggests that pelvic inflammation may be causative agents in the formation of these primary tumors and, therefore, early extirpation of inflammatory tissue may be good prophylactic treatment. Three of the patients in this series gave a positive history of pelvic inflammatory disease. Early surgical removal, also, of endometrial cysts of the ovary (one of the patients in this series had a laparotomy for this condition 7 years before her second operation for papillary adenocarcinoma of the ovary) or benign cystadenomata may prevent future malignant changes in the ovary.

	Bilateral		Unilateral		Cystic		Solid		Peritoneal Implants	
	No.	Died	No.	Died	No.	Died	No.	Died	No.	Died
Low Grade Malignancy	11	4	2	0	9	2	4	2	4	3
High Grade Malignancy	11	10	1	0	9	7	3	3	8	8
Totals	22	14	3	0	18	9	7	5	12	11

PATHOLOGY

Most agree that the majority of these tumors are bilateral. Thus, even though grossly the tumor may be in only one ovary, it is best to remove the other. In this series, where the tumor was unilateral, the prognosis was much more favorable. The cystic tumors were found to be more common and, like Pemberton[9], it was felt that they offer the more favorable prognosis, except in the highly malignant cases where the difference is not too remarkable. The presence or absence of peritoneal implants also seriously affect the prognosis.

The most important pathological consideration is the fact that often these tumors can be very difficult to diagnose microscopically[12,13,15,16]. The problem does not lie in those tumors which are definitely malignant but in those which are "seemingly" benign or "possibly" malignant. As Taylor and Greeley[13] aptly put it: "The morphological transition from the benign to the malignant takes place almost imperceptibly. No pathologist has had the experience to place the line of division exactly." In addition, serial sections are not done routinely, and without them it is impossible to be certain that a tumor is definitely a benign papillary cystadenoma and that small areas of early carcinomatous changes are not present somewhere in the tumor. Not infrequently some tumors which are considered to be malignant are actually benign and *vice versa*. This difference of opinion as to which tumor is benign and which is malignant is in Taylor's and Greeley's opinion: "probably the most important variable governing the reported figures on cures of ovarian cancer"[13].

TREATMENT

All agree that the primary treatment of papillary adenocarcinoma of the ovary is early and complete extirpation of the tumor tissue, including a complete hysterectomy (whenever possible) and bilateral salpingo-oophorectomy. This radical surgery is necessary because of the extensive lymph drainage from the ovary and the tendency for these tumors to

metastasize to tubes and uterus, and for these tumors to be bilateral.

The role of radiation therapy in papillary adenocarcinoma of the ovary is a moot question in answer to which there are many and conflicting opinions. Unfortunately, these opinions in many instances are based upon personal "feelings" instead of impersonal facts. Anspach[1] "feels" that it is "a worth while adjuvant to operation but that its true influence is hard to gauge." Lynch[3] also believed that X-ray therapy was an adjuvant to surgery, but that the "profession erroneously credits too many cures of ovarian cancer to the roentgen ray." Meigs[8] states that "X-ray treatment is unquestionably of value in prolonging life, but up to the present time it alone has not cured." Walter, Bachman and Harris[11] summarize that post-operative radiation is least beneficial in Stage 1 (where the tumor is limited to the ovaries) and that the most effective treatment in these cases is surgery. However, they are of the opinion that X-ray therapy is most beneficial in inoperable cases. Marchetti[12] feels that X-ray therapy did prolong the life of his patients and that it has a palliative effect, but in far advanced cases "it has little if any beneficial remedial effect". Taylor and Greeley[13] summed up their results with: "It does not appear that radiation has materially affected the average duration of life in cases of ovarian cancer."

It can be seen from the above that, in the minds of those who treat carcinoma of the ovary, the therapeutic value of radiation therapy is uncertain. However, since the disease is so lethal even with surgery, possibly X-ray therapy will do no harm. Not until a large controlled series is obtained in which tumors of equal malignancy, extension, and duration are compared, will the answer to this question be found. However, it is generally felt[9,11,17] that in the far advanced cases X-ray therapy, besides alleviating symptoms and possibly prolonging life, may make a non-operable tumor operable. There is a patient in this series in whom an exploratory laparotomy was performed and the tumor (of low grade malignancy) found to be inoperable. Post-operative X-ray was given and after 4 years and 16 paracenteses, the tumor became amenable to surgery. A bilateral salpingo-oophorectomy and supravaginal hysterectomy were performed. The patient live 3 years after this and died from meningitis secondary to an ulcer in her back (the effects of X-ray).

In this series, it was found that X-ray therapy had little appreciable affect on the end results.

The amount of X-ray and the methods in giving it also seem to have differences of opinion. Most men treat with protracted fractional doses. However, Taylor and Greeley[13] and Jacobs and Stenstrom[4] also used large single doses. Taylor and Greeley[13] used 670r in one dose to each of 4 fields. Jacobs and Stenstrom[4] used a single dose of 140% S. E. D. (1 skin erythema dose for a large field is approximately 700r) to each of 4 fields in 3 weeks time with maximum number of courses to any one patient limited to four. In the fractional dose treatment, the fields varied from 4-10, and the total dosage per field varied from 1500r to 2500r, given 200r-400r at a time[7,11,13].

	Unilateral Salpingo-oophorectomy				Bilateral Salpingo-oophorectomy				Supravag. Hyst. Bilat. S-O.				Complete Hyst. Bilat. S-O.				Exploratory and Biopsy			
	No X-ray	Died	X-ray	Died	No X-ray	Died	X-ray	Died	No X-ray	Died	X-ray	Died	No X-ray	Died	X-ray	Died	No X-ray	Died	X-ray	Died
Low Grade Malignancy	1	0	0	0	1	0	2	1	3	1*	4	2†	1	0	1	0	0	0	0	0
High Grade Malignancy	0	0	2	2	0	0	3	3	0	0	4	2	0	0	0	0	2	2	1	1

*Death not related to malignancy.
†One death not related to malignancy.

The physical factors also varied in the following manner:

KV: 180 — 250
Filter: 0.5 — 2.0mm Copper with or without aluminum which varied from 1 — 4 mm.

Burnam[6] also added 3 — 4mm. of sponged rubber.
Target Skin Distance: 50 — 80 cm.

The physical factors used in the treatment of our patients were as follows:

KV — 200 MA-20
Cu. filter — 0.5mm. — 2.0mm TSD-50cm.

Al filter — 1.0mm—	5 Fields: Ant. right and left, post-right and left, and lumbar. Occ. up to 8 fields are used.
HVL-0.9mm. (Measure taken in air)	

The treatment was given in fractional doses, 150-200r to 2 portals daily. Portals varied in size from 10cm. x 15cm. to 20cm. x 20cm., depending upon the size of the patient. The total dose to each field depended upon the tolerance of the skin and was usually 1800r ± in air.

In addition to the above, other adjunctive methods have been suggested in the treatment of carcinoma of the ovary. May[7] reports that Heyman and Schroeder and also Murphy do not remove the uterus, using it for the insertion of radium, whereas Seitz removes the uterus but uses vaginal radium. The average dosage of radium used is 3000-5000 mgm. hours. Most men believe that since the rays of radium are short, its use in carcinoma of the ovary is limited, for often implants of the tumor are beyond the reach of the radium rays. Meigs[8] and Pemberton[9] believe that the peritoneoscope may be of value in making early diagnosis of carcinoma of the ovary because of its easy application in exploring the abdomen under direct visualization. Pemberton[9] believes the omentum should be removed, along with the uterus and adnexa because of the fact that so often it is the site of later metastases.

RESULTS

The results of 5 year survivals from carcinoma of the overy cited by various authors vary from 9.5% to 50% (see table below). Such a wide variation makes these figures of little significance, for in themselves they imply the existence of variables which make the comparison of such figures misleading.

AUTHORS		5-YEAR SURVIVAL RATE
Anspach[1]	1934	29.1%
Norris[2]	1934	50.0
Lynch[3]	1936	35.5
Burnam[6]	1938	9.5
May[7]	1939	31.0
Pemberton[9]	1940	32.0
Jones[10]	1941	23.3
Marchetti[12]	1941	13.0
Taylor & Greeley[13]	1942	15.2

The results of patients with papillary adenocarcinoma of the ovary studied in this series were:

Low Grade Malignancy	*High Grade Malignancy*
Dead — 4 (30.8)	Dead — 10 (83.3%)
Still alive at the end of:	Still alive at the end of:
1 year-2	3 years — 1
1 1/2 years-1	Unable to locate — 1
2 years-1	
3 years-1	
4 years-2 (one last seen in 1939 and the other in 1942)	
5 years-1	
10 years-1	

PROGNOSIS

As things stand today, the prognosis for papillary adenocarcinoma of the ovary is anything but good. The principal factors influencing the prognosis were found by Taylor and Greeley[13] to be four in number. The first is the gross extent of the disease which they believe to be the "most important single consideration", for in the ⅓ of their patients in whom all visible tumor tissue was removed, ½ of them survived 5 years; whereas, of the ⅔ of the patients in whom some carcinomatous tissue was left behind, only 2% survived—regardless of the type of treatment. The second is the type of ovarian malignancy—the papillary adenocarcinoma having the lowest survival rate: 14.3%. The third is the histological appearance of the tumor—those of low malignancy having the better prognosis. The fourth is the use of post-operative X-ray, about which Taylor and Greeley are not definitely certain.

Although in agreement with Taylor and Greeley, it was felt from this study that the histological appearance of the tumor was the important single factor. This is in concurrence with Lynch[3], though Walter *et al*[11] were in agreement with Taylor and Greeley. It was also felt that the extent of the growth was dependent upon the degree of the malignancy. Thus, a highly malignant tumor which is fast growing is apt to be far advanced upon the patient's first visit to her physician, whereas the low grade malignancies are generally slow growing and more usually restricted to the ovaries. There was a patient in this series with low grade malignancy for which just the one ovary which was involved had been resected. Seven years later, she had the very same type of tumor recur in the same ovary. This time a bilateral salpingo-oophorectomy was performed and X-ray given. Another patient with low grade malignancy had peritoneal implants. She had

a bilateral salpingo-oophorectomy and complete hysterectomy without any post-operative X-ray. Today both patients are alive without any evidence of recurrence present.

Many agree with Lynch[3] and Pemberton[9] that cures should be based on the survival for 10 years instead of 5 years. Lynch believes that even the far advanced cases often lived 5 years or more regardless of the type of treatment, harboring the cancer, and, in his opinion, these certainly should not be considered as "cures". The one case of recurrence in this series of a low grade malignancy after 7 years is added support to this opinion.

CONCLUSIONS

Papillary adenocarcinoma is the most common malignant tumor of the ovary. Early signs and symptoms are so insidious that the presence of the tumor is not appreciated until the disease usually is well advanced. In the highly malignant group, the duration of the symptoms are of no significance; whereas in the low grade malignant group a better prognosis may be expected if the duration is under one year.

Prognosis depends upon the duration and extent of the tumor, the microscopic degree of malignancy and the extent of the surgery. Patients past the age of 40 years should have pelvic examinations performed at least twice annually, for, since symptoms of carcinoma of the ovary are "silent", this is the only positive method by which early cases may be picked up.

The treatment of choice is surgery: complete hysterectomy and bilateral salpingo-oophorectomy. Post-operative X-ray therapy may be given, but its value at the present time is not very definite.

BIBLIOGRAPHY

1. Anspach, B. M.: *S. G. and O.* **58**:448-450, Feb., 1934 (No. 2A).
2. Norris, C. C.: *Ibid.* 458-459.
3. Lynch, F. W.: *Amer. J. Obst. and Gyn.* **32**:753-777, Nov., 1936.
4. Jacobs, L. G., and Stenstrom, W.: *Radiology* **28**:725-730, June, 1937.
5. Adams, H. D.: *Surgical Clinics of N. A.* **18**:771-775, June, 1938.
6. Burnam, C. F.: *Am. J. Roent.* **40**:891-894, Dec., 1938.
7. May, E. A.: *Ibid.* **41**:425-431, March, 1939.
8. Meigs, J. V.: *S. G. and O.* **71**:44-53, July, 1940.
9. Pemberton, F. A.: *Am. J. Obst. and Gyn.* **40**:751-763, Nov., 1940.
10. Jones, F. H.: *Am. J. Surg.* **52**:246-259, May, 1941.
11. Walter, R. I.; Bachman, A. L., and Harris, W.: *Am. J. Roent.* **45**:403-411, March, 1941.
12. Marchetti, A. A.: *N. Y. State J. Med.* **41**:2324-2331, Dec. 1, 1941.
13. Taylor, H. C., Jr., and Greeley, A. V.: *S. G. and O.* **74**:928-934, May, 1942.
14. Crossen, H. S.: *J.A.M.A.* **119**:1485-1489, Aug. 29, 1942.
15. Novak, E.: Gynecological and Obstetrical Pathology, W. B. Saunders Co., Phil., 1941.
16. Barzilai, G.: Atlas of Ovarian Tumors, Grune and Stratton, N. Y., 1943.
17. Helsel, E. V.: *Am. J. Obst. and Gyn.* **52**:435-439, Sept., 1946.
18. Cromer, J. K.: *M. Ann. District of Columbia* **15**:425-428, Sept., 1946.

2806 South Randolph Street.

New Books.

Some recent additions to the Library of the Medical College of Virginia, Richmond, available to our readers under usual library rules are:

Bienfang—The subtle sense.
Burstein and Bloom — Illustrative electrocardiography. 3rd ed.
Castiglione—History of medicine. 2nd ed.
Cole and Elman—Textbook of surgery. 5th ed.
Cook—Ulcer.
Cooper—Scientific instruments.
Fulton and Thomson—Benjamin Silliman. Pathfinder in American science.
Gillespie—Endotrachial anesthesia.
Index to current periodical literature on neoplastic diseases.
Kessler—Rehabilitation of the physically handicapped.
Kinsey, Pomeroy and Martin—Sexual behavior in the human male.
Leake—Letheon. The cadenced story of anesthesia.
Malmberg—140 million patients.
Northey—The sulfonamides and allied compounds.
Rosenthal et al—Diabetic care in pictures.
Saul—Emotional maturity.
Tilton—Amiable autocrat. A biography of Oliver Wendell Holmes.
Vinson—Diseases of the esophagus.

THE ANEMIA PROBLEM IN EVERYDAY PRACTICE*

HARVEY C. BROWNLEY, M.D.,
Lynchburg, Virginia.

Anemia is a problem with which every practitioner of medicine is frequently confronted. In each instance, this condition merits proper evaluation, careful inquiry to determine the etiology and a therapeutic approach compatible with the present knowledge of the subject. Unfortunately, few conditions are dealt with in such an empirical or—one might even say—hit or miss manner. Consequently, unnecessary expense, a confused clinical picture, and occasionally prolonged incapacity may be the patient's lot. This discussion will consider briefly the common types of anemia and their therapy.

The first is the iron deficiency anemias. This is distinctly more common in the female than in the male except perhaps in the years before adolescence. The red blood cells may be reduced in numbers or approach normal limits but the reduction of hemoglobin is marked in comparison and reflects the iron deficiency. The color index is quite low, varying from 0.4 to 0.8. Morphologically the cells are small and pale with a mean corpuscular volume of less than 80 cubic microns and a corresponding reduction in the mean corpuscular hemoglobin concentration. The bone marrow reveals a normoblastic erythropoiesis. Events which occasion an increased demand for iron are blood loss, growth and pregnancy[1]. Precipitating factors are prolonged bleeding from any source, such as uterine, menstrual, or lesions of the intestinal tract of which ulcers, varices and hemorrhoids are common examples. In pregnancy the demand of the growing fetus for iron may be responsible for the production of an iron deficiency anemia in the mother In children from the fourth month, at which time the supply of iron in the liver is depleted and the diet must be relied upon for this element, until the fourth year it is not unusual for a deficiency to develop[2]. Ordinarily, though adults may partake of an inadequate diet or be incapable of proper absorption of iron, it is unlikely that these factors in the absence of actual blood loss are responsible for anemia of the iron deficiency type[1,3]. This is probably accounted for by the fact that the body has very little ability to excrete iron once it is stored.

Clinically, the anemia of chronic hemorrhage typifies this group. Recurrent small hemorrhages may be well tolerated. On the other hand, frequent hemorrhages so over tax erythropoiesis that adequate regeneration is impossible and severe anemia ensues. Then the characteristic symptoms of weakness, dyspnea, fatigue, and fainting are experienced. The blood picture is characteristic of this group, with microcytosis, hypochromia, reduced corpuscular hemoglobin concentration and normoblastic erythropoiesis in the bone marrow. The urgent feature in these cases is the determination of the bleeding point and its prompt control.

Idiopathic hypochromic anemia presents a picture which is morphologically identical with that of chronic hemorrhagic anemia. This condition is almost exclusively confined to women of the childbearing age. Attention has been called to certain constitutional features found in these individuals[4], namely, light colored eyes, prematurely gray hair, and wide costal angle which resemble those of pernicious anemia patients. Features which identify this anemia are gastric achlorhydria, glossitis, dysphagia (Plummer-Vinson syndrome), tongue atrophy, spoon nails and paresthesias, without evidence of cord changes, and occasionally there may be splenomegaly[11]. While the etiology is controversial, Fowler and Barer[3] carried out iron balance studies in these patients and found that the menstrual blood loss produced a need for iron in excess of the amount which could be supplied by diet. They also believe that evidence supports the contention that in presence of achlorhydria there is deficient iron absorption. Thus, menstrual blood loss and achlorhydria in their opinion are the chief causes.

Iron deficiency anemias of pregnancy are well known. These are usually hypochromic microcytic in type. In establishing the diagnosis, however, it is well to exclude the physiological anemia of the last trimester particularly. In this latter instance, the plasma volume may be increased as much as 23% with a corresponding relative decrease in cells.

*Read before the Junior Journal Club, Lynchburg, Va., June 26, 1947.

The hemoglobin, however, is not reduced below 10 grams per 100 cc. and the cells are of normal size, whereas, in true iron deficiency anemia of pregnancy the hemoglobin is less than 10 grams per 100 cc. and the cells are microcytic. Achlorhydria frequently accompanies this anemia even though it may be only temporary. This may make differentiation from idiopathic hypochromic anemia difficult, since many such cases are first discovered during pregnancy[5]. Nevertheless, there are patients who present this picture in the absence of achlorhydria and represent a true iron deficiency anemia.

Adequate treatment of this group of anemias is accomplished by the administration of large doses of iron salts. The ferrous salt, usually the sulphate in doses ranging from one to two grams daily[1], is suggested. Ferrous gluconate may be preferable where there is gastric irritation. The oral administration will produce the desired reticulocyte response and return of the blood to normal levels. Moore[6] has shown that massive doses of iron parenterally are almost completely utilized; however, the severe reactions which follow this method make its employment unsafe. The small doses which can be safely tolerated parenterally, are not as effective as large doses administered orally. It has been noted[7] that patients with acid in the stomach respond more quickly to small doses of iron than those with achlorhydria. In both instances restoration is fairly well accomplished in six to eight weeks. The addition of hydrochloric acid does not materially improve iron absorption. Continuous treatment with iron may be required to prevent recurrences of anemia where there is achlorhydria. Many combinations of iron, liver, copper, vitamin B, and, of late, pteroyl glutamic (folic) acid, have been in vogue. The evidence at hand does not justify their use, or the additional cost of such preparations. There is not a complete uniformity of opinion regarding the value of liver in the treatment of hypochromic microcytic anemia. The presence of a substance other than the intrinsic factor, which is of value in iron deficiency anemia, has its adherents[11]. On the other hand, any improvement resulting from liver therapy in iron deficiency anemia is attributed to the content of iron in the liver by others. Liver has not produced the desired response in iron deficiency anemias according to some investigators[3]. Certainly liver is not a prerequisite for these anemias. It has been demonstrated that hypochromic anemia in patients with deficiency of vitamin B complex responds satisfactorily to the administration of iron alone. The addition of the vitamin B complex did not improve the response. Neither the absorption nor the utilization of iron is impaired by vitamin B deficiency. The experimentally produced hypochromic microcytic anemia, resistant to iron, in animals on a diet deficient in pyridoxine is not known to occur in man[8]. The addition of copper to iron has not improved the response of the blood and, conversely, low copper intake has not prevented response from iron[7]. Spies reports a failure of response of the blood in iron deficiency anemia to pteroyl glutamic (folic) acid. Finally, at this point it might also be stressed that iron is of value only in iron deficiency anemia.

Since these anemias are usually characterized by prolonged blood loss which has permitted the organism to adopt itself to this state in most instances, there is no great need for transfusions. Severe degrees of anemia will respond to iron alone.

The diet in these individuals should contain meat, liver, eggs, fruits and vegetables rich in iron. The average diet is estimated to supply from 12-15 mgms. of iron daily. An inquiry into the dietary habits of these individuals is necessary in the treatment of the anemia.

A second group of anemias is that which responds to the administration of liver extract, and is best called the macrocytic anemias. Morphologically their cells are macrocytic and show a considerable variation in size and shape. They reveal a comparatively high content of hemoglobin as evidenced by a thick well filled appearance and lack of central pallor. The color index is well above one as a rule. The mean corpuscular volume is increased but varies with the severity of the anemia. The white count tends to be low normal or reduced. The neutrophiles are also reduced and there are observed large multi-segmented cells with six or more lobules. These cells are the macropolycytes of Cook, found when there is a deficiency of the liver principle. Bone marrow studies reveal the characteristic megaloblastic erythropoiesis.

Spies[10], in his studies of macrocytic anemias, employs the following classification: There are two groups, those due to dietary failure such as nutritional macrocytic anemia, and those which follow primary disorders of the gastro-intestinal tract as Addisonian pernicious anemia and sprue. Those cases of macrocytic anemia which reveal an achylia

following histamine injection are classified as Addisonian pernicious anemia. Instances of macrocytic anemia having acid and steatorrhea are considered sprue. Macrocytic anemia occurring in persons with a dietary deficiency but without achylia and steatorrhea are called nutritional macrocytic anemia. Admittedly this group is not too clear cut. In many instances the same patient at different times may suggest different syndromes.

The classic example of macrocytic anemia is Addisonian pernicious anemia. This is a disease of middle and old age, with its greatest incidence between forty and seventy. Some authors state that the sexes are equally susceptible while others believe that it occurs with greater frequency in males. It is primarily a disease of the temperate zone. It is uncommon in the Jewish race and rare but probably not as much so as formerly thought in the Negro. Failure of maturation of erythrocytes or an arrest of maturation appears to be the mechanism responsible for this condition. The erythrocyte maturation factor or anti-anemic principle results from interaction of the extrinsic (dietary) factor and the intrinsic (stomach) factor. After its formation in the stomach, this anti-anemic principle is stored in the liver and to some extent in the kidneys and other tissues. There is evidence that achylia by producing mucosal atrophy is a contributing factor. The peripheral blood picture of anemia of the macrocytic type, with extreme variation in the size and shape, nucleated red cells some of which are megaloblasts, the high color index, and the presence of neutrophilic macropolycytes, is characteristic. The bone marrow findings are those of megaloblastic erythropoiesis. The finding of an achylia after histamine injection completes the diagnosis. Clinically, the features are weakness, glossitis, paresthesias and gastro-intestinal disturbances. Unfortunately these findings indicate a fairly advanced stage of the disease. Minot[11] feels that the condition is most often not diagnosed until it has been present for a year or more. He stresses early diagnosis to prevent neurological complications. This implies attention to the history, giving particular thought to patients with chronic indigestion, loose stools, atrophy or soreness of the tongue, slight macrocytosis, the use of the tuning fork to detect disturbed vibratory sense and study of the smear. These are simple but invaluable aids to diagnosis.

Macrocytic or pernicious anemia of pregnancy is infrequent. It is more common in multiparous women under thirty-five years. Its occurrence is confined to the latter part, particularly the third trimester, of pregnancy. There is resemblance to Addisonian pernicious anemia in the peripheral blood picture in some cases. However, cases occur in which the anemia may be normocytic or even microcytic[12]. In all instances the marrow shows megaloblastic erythropoiesis and sternal puncture may be required to complete the diagnosis. Glossitis, neurological manifestations and achylia may not be observed. The response to liver extract also distinguishes this condition from Addisonian pernicious anemia. It is less responsive, requires larger doses and the reticulocyte response is not as marked. Very often blood transfusions are necessary to supplement the liver. Fever often is present and the picture may simulate an infection. Fortunately there is permanent recovery in about five months after pregnancy, following which there is no further need for therapy. The child is not affected in any way.

Watson and Castle[13] studied four cases of macrocytic anemia of pregnancy in whom there was dietary deficiency, especially meat, presence of hydrochloric acid, absence of neural manifestations, and lingual atrophy. The macrocytosis, poikilocytosis, and anisocytosis were less marked. These cases did not respond to the usual doses of injectable liver extract, but did respond to oral liver extract (Valentine). Injections of B vitamins, biotin, pyridoxine, and L. casei factor were without avail; whether larger doses of pteroyl glutamic acid now available would help is not known. This suggests the presence of an agent other than the anti-anemic factor in liver, which was more abundant in the oral liver extract than in the injectable form. This factor they called the "Wills' factor" in honor of Dr. Lucy Wills, who made similar observations on patients with nutritional macrocytic anemia in India. This poses the question, are there cases of macrocytic anemia of pregnancy deficient in the anti-anemic liver principle like Addisonian pernicious anemia, and others which are deficient in the Wills' factor? These latter cases are no doubt rare in this country.

Of the macrocytic anemias, sprue is at times more difficult to differentiate from Addisonian pernicious anemia. While it is primarily found in tropical and subtropical climates, its occurrence in this country is well documented. It is believed

that there is little difference between tropical and non-tropical sprue[10]. This latter condition is also called "idiopathic steatorrhea". This disorder is due to a deficiency of the extrinsic (dietary) factor. Adequate protein which contains this extrinsic factor is lacking in the diet. In typical cases the blood reveals a macrocytic anemia, high color index, low reticulocyte count, and megaloblastic bone marrow. Fully developed there is wasting, glossitis, diarrhea with bulky fatty stools which may be white, gray or dark colored. Hypochlorhydria is present in 70 per cent and achlorhydria in 30 per cent of cases[14]. Wintrobe[4] states that the well developed case may be preceded by months or years of chronic indigestion, constipation with occasional loose stools, sensitive tongue, and depression. With this in mind, one might detect unsuspected cases.

The occurrence of macrocytic anemia in cases of chronic liver disease has been repeatedly observed. The frequency with which it occurs is variable, and it seems to be chiefly found in cases of cirrhosis of the liver. The cause is not completely established. Interference with the storage of, or depletion of, the supply of the maturation factor by the disturbed liver function has not seemed to explain the anemia in all cases. While the anemia has many similarities to pernicious anemia, the predominant symptoms are those referable to the disordered liver function.

Liver has been the sheet anchor of therapy in macrocytic anemias since its brilliant results in the treatment of pernicious anemia became established. Symptomatically the patient recovers, neurological manifestations are improved and the blood regenerates and may be maintained at normal values. The response in pernicious anemia of pregnancy has been less dramatic. Larger doses of liver are required, even transfusions may be necessary and the reticulocyte response is less marked though prognosis has been materially improved in a condition that was once frequently fatal. Sprue, likewise, has been controlled by liver extract and these individuals rendered free of the gastro-intestinal symptoms as well as anemia. Parenteral liver therapy has also resulted in improvement in the macrocytic anemia of liver disease. The schedule of administration of parenteral liver extract for pernicious anemia in relapse is applicable in the case of other macrocytic anemias. This suggests[4] 15 units parenterally daily until the maximum reticulocyte response has been attained. This usually requires in the neighborhood of seven days. If the response is satisfactory, then the dose may be reduced to 15 or more units weekly. An effective maintenance dose varies with the individual case. The use of transfusions even in the severely anemic case of pernicious anemia patient is no longer considered necessary.

The recent employment of pteroyl glutamic (folic) acid in the treatment of macrocytic anemias has given new impetus to the study of these conditions. It has produced remissions in nutritional macrocytic anemia, Addisonian pernicious anemia, macrocytic anemia of pregnancy, sprue, one case of macrocytic anemia with carcinoma of the stomach and three cases of indeterminate origin[9]. In patients with sprue the hematological and clinical results have been prompt and impressive[14]. Until adequate time elapses its value in pernicious anemia must await. This substance appears to be different from the hematopoietic principle of liver extract as evidenced by the relatively large amounts of folic acid necessary to produce a remission in pernicious anemia in contrast to the liver extract in which the quantity of active ingredient is smaller. Reports of the failure of pteroyl glutamic (folic) acid to prevent neurologic relapse in pernicious anemia[15] are occurring in the literature. At this time it would appear unwise to abandon the routine use of liver extract in the treatment of pernicious anemia. In instances where the individual is sensitive to liver extract, employment of pteroyl glutamic (folic) acid would seem justified.

There is another, and perhaps the largest, group of anemias which respond poorly, if any, to liver or iron therapy. For the most part these anemias are characterized by erythrocytes of essentially normal size and hemoglobin content. For this reason they may be referred to as the normocytic anemias. In this group may be considered anemia following acute blood loss, physiologic anemia of pregnancy, the anemia of infection, aplastic anemia and the anemia of hypothyroidism.

In acute blood loss the resultant clinical picture varies with the quantity of blood loss, and the suddenness with which it is lost. The symptoms may be mild or produce the picture of shock. At first there is little change in the value of hemoglobin or the red cell count due to compensatory vascular changes. An elevation of the platelet

count very soon occurs and is in a matter of a few hours followed by an increase in the white count. Anemia becomes evident after fluids are introduced to increase the blood volume, and increases for a time. Treatment should be aimed at control of hemorrhage, restoring the blood volume and combating any shock. Blood transfusions are preferable to any other agent for restoring blood volume. Normally, where there are adequate stores of iron in the body, there is little indication for its use. Restoration usually occurs in a month. Liver extract has no value in the treatment.

Physiologic anemia of pregnancy has been previously mentioned. This actually represents a hydremia with plasma increase up to 23%[12]. While there is some cellular increase, it is over-shadowed by the increase in the fluid volume. The cells reveal essentially normal characteristics. This process becomes apparent in the third or fourth month, is considerably increased by the seventh month, and by the sixth post-partum month has disappeared. Hemoglobin values do not fall below 10 grams nor the erythrocytes below 3.36 million. Iron and liver therapy are of no avail.

Anemia is often observed in infections which are of a subacute or chronic nature. Most clinicians have been impressed with the anemia in the various forms of urinary tract infection and in nephritis, arthritis, pulmonary disease, brucellosis and endocarditis due to streptococcus viridans infection. The degree of anemia in such cases may vary. Often it is over-shadowed by the disease process. There are instances where the anemia may be marked and difficult of explanation until only after very careful studies have been carried out. This is frequently the case in chronic pyelonephritis which may go unrecognized. The anemia is usually of the normocytic type. The refractoriness of such anemias to usual forms of therapy is a common experience. The mechanism of such anemias is difficult of explanation. It has been observed that there is a disturbed iron metabolism in such cases. The iron plasma level drops shortly after the infection develops and cannot be raised by therapy. It is only after the infection has cleared and the anemia corrected that it returns to normal[4]. The satisfactory treatment of such anemia necessitates the control of the infection. Transfusions serve as a palliative measure during the active stage. Neither liver, iron, or combination of the two, act with any degree of success.

The aplastic anemias constitute a severe group of blood dyscrasias whose refractoriness to all forms of therapy is notable. Actually there are two classes of this disorder—the primary or idiopathic aplastic anemia and the secondary aplastic anemia. Clinically they are manifested by severe anemia, leukopenia and thrombocytopenia.

Primary aplastic anemia is primarily a disease of young adults. It occurs usually before the age of thirty-five. Its onset may go entirely unrecognized, and its course may be rapid or comparatively slow. Weakness, pallor and fatigability are prominent features. There is usually temperature, which may be irregular, or marked, in instances of rapid progression. Soon bleeding becomes evident, especially as the anemia becomes pronounced. This may come from any orifice, and is attributed to the thrombocytopenia. The presence of splenomegaly should cast doubt upon the diagnosis of aplastic anemia. Ordinarily the total red blood count is very low. The cells are usually normocytic, though they may be macrocytic and there is an absence or very marked decrease in reticulocytes and other evidences of young forms. The leucopenia may be pronounced and the predominant cell is the lymphocyte. Platelets are reduced and occasionally no platelets are found. The bone marrow is most often aplastic in type, consisting of mature erythrocytes, while lymphocytes comprise the majority or all of the nucleated cells. There are cases in which the bone marrow reveals varying degrees of hyperplasia, involving cells of both the erythrocytic and myeloid series. Such instances may be confusing, but the immaturity of the cells probably does not approach that of a leukemia.

The secondary type of aplastic anemia is seen as a result of intoxication from heavy metals such as arsenic, and gold, exposure to benzol and benzene derivaties, and from radiation or radio-active substances. In these instances rather profound anemia with varying degrees of leukopenia and thrombocytopenia are found according to the individual substances to which exposed. The chief agent for combating these anemias is blood transfusion. The primary form is highly fatal, but occasional recoveries reported necessitate the continuance of this procedure for a considerable time. In the secondary type removal from or discon-

tinuance of the use of the offending substance is mandatory. In instances where arsenic, gold and even mercury are responsible agents, in addition to transfusions it would appear wise to employ BAL (British Anti-Lewisite). Recent experiences with this substance have been encouraging in treatment of blood dyscrasias from these metals[16,17].

Anemia may be associated with hypothyroidism. Such an anemia may not be severe, but may present a problem in management. Morphologically the picture is either normocytic or macrocytic. The high incidence of achlorhydria associated with myxedema may contribute to iron deficiency and a hypochromic anemia. Pernicious anemia and hypothyroidism may be associated, and thyroid extract is required before a remission of the pernicious anemia can be effected. Total thyroidectomy may produce a macrocytic anemia, unresponsive to liver, but improving with thyroid medication.

SUMMARY

An attempt has been made to discuss briefly anemias likely to be encountered in every-day practice. For this discussion they have been divided into those that respond to iron therapy, those responding to liver therapy, and those responding poorly or not at all to liver or iron. Morphologically these may be classed as hypochromic microcytic, macrocytic and normocytic, respectively. The characteristics and clinical types of each group have been mentioned, along with the indicated therapy. It is believed that the necessity for careful study and evaluation of all cases of anemia is evident. The employment of such a procedure routinely will make the management of this problem equally gratifying to the patient and physician. It cannot be too strongly emphasized that every anemia should be adequately explained before therapy is undertaken.

BIBLIOGRAPHY

1. Paegel, Bertha L., and Ross, Joseph M.: Diagnosis and Treatment of Anemia. *Medical Clinics of North America,* 1042-1056, 1946.
2. Kracke, Roy R.: Diseases of the Blood. Second Edition, 1941, J. B. Lippincott Co., Phila.
3. Fowler, M. M., and Barer, Adelade P.: The Etiology and Treatment of Hypochromic Anemia. *Am. J. M. Sc.,* **194**:625-635, 1937.
4. Wintrobe, M. M.: Clinical Hematology. Second Edition, 1946. Lea and Febiger, Phila.
5. Whitby, L. E. H., and Britton, C. J. C.: Disorders of the Blood. Fourth Edition, 1944, J. and A. Churchill, Ltd., London.
6. Goetsch, A. T., Moore, C. V., and Minnick, V.: Observation of Effects of Massive Doses of Iron Given Intra-Venously to Patients with Hypochromic Anemia. *Blood,* **1**:129-141, 1946.
7. Bethel, Frank H., Goldhamer, S. M., Isaacs, Raphael, and Sturgis, Cyrus C.: The Diagnosis and Treatment of Iron Deficiency Anemias. *J.A.M.A.,* **103**:799, 1934.
8. Moore, C. V., Minnick, V., Vilter, C. W., and Spies, T. D.: Hypochromic Anemia in Patients with Deficiency of the Vitamin B Complex—Response to Iron Therapy with and without Yeast. *J.A.M.A.,* **121**:245-250, 1943.
9. Berry, L. J., and Spies, T. D.: The Present Status of Folic Acid. *Blood,* **1**:271-307, 1946.
10. Lopez, G. G., Spies, T. D., Mendez, J. A., and Toca, R. L.: Folic Acid in the Rehabilitation of Persons with Sprue. *J.A.M.A.,* **132**:906-911, 1946.
11. Minot, Geo. R.: The Anemias of Nutritional Deficiency. *J.A.M.A.,* **105**:1176-1179, 1935.
12. Wolff, John R., and Limarzi, Louis R.: Anemia in Pregnancy—Correlation of the Peripheral Blood and Bone Marrow Findings. *J.A.M.A.,* **128**:482, 1945.
13. Watson, Janet, and Castle, William B.: Nutritional Macrocytic Anemia, Especially in Pregnancy—Response to a Substance in Liver Other than that Effective in Pernicious Anemia. *Am. J. M. Sc.,* **211**:513-531, 1946.
14. Suarez, R. M., Spies, T. D., and Suarez, R. M., Jr., The Use of Folic Acid in Sprue. *Annals of Int. Med.,* **26**:643-678, 1947.
15. Heinle, Robert W., and Welch, Arnold D.: Folic Acid in Pernicious Anemia—Failure to Prevent Neurologic Relapse. *J.A.M.A.,* **133**:739-741, 1947.
16. Cohen, A., Goldman, J., and Dublis, A. W.: Treatment of Acute Gold and Arsenic Poisoning. *J.A.M.A.,* **133**:749-752, 1947.
17. Lockie, L. M., Norcross, B. M., and George, C. W.: Treatment of Two Reactions Due To Gold. *J.A.M.A.,* **133**:754-755, 1947.

1100 Church Street.

CANCER FOLLOWING BURN SCARS

HYMAN CANTOR, M. D.*
Petersburg, Virginia

The eponym bearing the name, "Marjolin's ulcer," was derived from the lucid description by a French surgeon, Jean-Nicolas Marjolin, of the carcinomatous ulcers which originate on degenerate scars. He published his classical description of the ulcer in 1828.

A burn is an injury inflicted on the body by a degree of heat higher than is compatible with healthy action on the part affected. A burn can be caused by any body that radiates much heat. The potentiality of a scar to undergo malignant degeneration and histological variety of epithelioma resulting are due to the extent of surface area involved and to the depth of the burn, which in turn are related to certain factors, namely: (1) the degree of temperature; (2) the nature of the exciting agent; (3) its capacity for heat absorption; (4) the duration of contact; (5) the susceptibility of the part acted upon; and (6) the condition of the patient. Scalds are produced by action of boiling liquid, superheated steam, and molten lead, or other metals. The difference in the effects of burns and scalds is comparable to the distinction between roasting and boiling.

The content of this paper considers only cancer following thermal and chemical burns, excluding those cancers developing in skin which has been over irradiated by X-rays or radium.

One can make certain generalizations concerning scar cancers:

(1) Acute wound cancer developing within a year of the date of the injury occurs in instances of quite superficial burns with little surface involvement. This condition is rather rare.

(2) All basal cell cancers of scars occur in instances wherein the burn was sufficiently superficial to spare the hair follicles and sweat glands which remain as points of origin.

(3) Dense hard scars usually result in squamous carcinomata.

The age of the scar is more important than the age of the individual, because this variety of cancer can occur in young people if the scar has been existent for a long time, such as from infancy or childhood. A patient burned at the age of 6 years may develop a squamous cell carcinoma 17 years later. The average time interval between burn and onset of cancer:

Acute wound cancer—3½—7 months.
Chronic scar cancer—30 years.

In acute wound cancer, the carcinomata make their recognizable appearance before healing is complete. Healing in these cases takes place by the natural processes of epithelialization from the margins of the wounds and from residual hair follicles and sweat glands when present. Infection by pyogenic organisms, a constant concomitant of ungrafted burns, delays the healing process and contributes greatly to the production of dense, fibrotic avascular scar tissue. Anemia is a factor which interferes with wound healing of burns. Scars of slow formation are much more liable to undergo carcinomatous degeneration than scars quickly formed as the latter are pliable and soft. The location of the burn sometimes impedes healing, particularly when the axilla, groin and middle of the back are involved.

Acute cancers in burns seem to be infrequent. When present, they occur in older people with atrophic and keratotic skin. In such cases the thermal trauma is a probable exciting factor to a skin which is already more susceptible to carcinogenic influences.

Goldblatt classifies burns into two classes according to their end-results: those that will heal with scar formation, and those that will heal without scar formation. The scar forming burn is the only one of significant import in the study of scar cancer. The tight, thick, dense scar is the one most liable to carcinomatous degeneration.

The scar tissue resulting from a burn undergoes greater contraction than new tissue formed in other circumstances. The tendency of such a scar to contraction continues for many weeks after the completion of cicatrization.

The diseases of the burn cicatrix are fissures ulceration, irritability, itching, neuralgia, hypertrophy, keloid formation, epitheliomatous and calcareous degeneration.

*Associate in Surgery, Medical College of Virginia, Richmond.

Scar tissue is poorly vascularized because dense fibrosis obliterates many of the blood vessels; the resultant imperfect nutrition of the scar is responsible for the ease with which ulceration occurs. The dry, thin, and delicate epithelium covering the scar is easily destroyed by trauma, to which it is frequently subjected because of the elevation of the scar. In case of adherent scars of axilla, extremities and mid back, the epithelium is abraded by relatively slight injuries. Each successive abrasion, ulceration, or fissure heals with increased difficulty, the quality of the regenerated epithelium is progressively inferior, and finally the persistent stimulation to the marginal epithelium for repeated growth and repair with constant frustration, may lead to a loss of tissue restraint and eventually cancer.

The carcinomatous degeneration in burn scars is often confined to the margins which begin to crenate and show a warty appearance. The majority of these neoplasms are the ulcerative, flat, indurated infiltrative variety which not only invade the surrounding scar but also muscles, tendons and bones. Deep invasion is late. All bulky scar cancers are malodorous due to saprophytic infection.

The basal cell epitheliomata arising in superficial scars are small at first and differ in no way from the usual picture of rodent ulcer. Even when cancer following burn scars is of long duration and infiltrates deeply, the regional lymph nodes are remarkable free from metastases. It is thought that the bed of scar tissue delays metastases. Metastasis is by the lymphatics, and the growing edge of the carcinoma must penetrate the barrier of fibrosis presented by the scar before the lymphatic vessels are accessible. The lymphatics in the immediate neighborhood of the scar are largely obliterated by the cicatrix. However, once scar cancer gets beyond the limits of the enveloping scar it will spread as rapidly as any other epidermoid carcinoma.

The presence of metastases in the regional lymph nodes is the most important prognostic factor; it is of far greater import than the duration of the cancer. The prognosis is modified by the location of the tumor, its fixity, its proximity to blood vessels, the degree of suppuration, and the radiosensitivity. The age of the patient has an influence on the outcome; older people are less tolerant of radical surgical measures.

The ultimate prognosis for acute wound cancers is better than for chronic scar cancers on account of the superficial character of the scar, the small size of this type of cancer and the predominance of basal cell types.

The cardinal points to be emphasized about the prevention of scar cancer in burns are: (1) The prevention of the burn; (2) the local treatment of the burn, particularly the successful management of infections; (3) promotion of rapid epithelization; (4) early skin grafting of the burned area; and (5) radical excision of the scar at the first indication of degenerative changes.

In burns of severe degrees, early skin grafting is the most efficient preventive measure for thickened scars, contractural deformities, and cosmetic disfigurations. When skin grafting is delayed, there is formed an unhealthy anemic granulation tissue, with a scar tissue base. Chronic granulation tissue is the parent of scar tissue. A cancer seldom if ever arises in a scar healed by primary intention; primary wound healing is impossible in burns, but one can approach this condition by early skin grafting. It is very important to employ skin grafting in children, not only for cosmetic betterment and to prevent contractural deformities, but because scars in children are particularly exuberant and hypertrophic and therefore are more prone to degenerate later in life. The scar does not grow with the child; consequently, with age it is subjected to increased tension. The existence of the scar from childhood to old age results in prolonged exposure of the scar to carcinogenic influences.

The thin ribbon Ollier-Thiersch grafts should not be used unless the extent of the burn precludes the employment of the whole thickness grafts. The Thiersch grafts do not stimulate normal skin; none of the skin accessories, such as hair follicles, sweat and oil glands are present, in consequence of which the grafted area is dry, without oil, and subject to the same degeneration as scar tissue. Cancer has been known to originate on Thiersch-grafted regions.

Every effort should be made to obtain pliable scars over joints, because the flexion and extension of these members tend to provoke ulcers and fissures in tight adherent scars. Therefore, when scar tissue is beginning to form and the burned surface overlies a joint, it is desirable to place the limb in such a position that the motion and integrity of the joint shall not be interferred with by

the contraction of the resulting scar. This may be maintained by the application of plaster-of-Paris splints, adhesive plaster, elastic bands and extension appliances.

A scar can be softened and made more elastic by continuous application of moist warm boric acid solution packs for a long time concurrently with the exercise of traction. Adherent scars should be aided by massage and hydrotherapeutic measures.

If the scarred skin is tense, poorly nourished, and inclined to ulcerate at the slightest provocation, improvement may be obtained by incisions made at right angles to the direction in which relaxation of the skin is desired. Such incisions, if multiple, should be made parallel to one another and should run in the direction of the chief blood vessels, in order to spare the vascular supply of the scarred area.

All large scars are menaces. All sources of irritation should be avoided. The scar should be treated with a bland oil at times to prevent excessive keratin accumulation. If the scar becomes intractably pruritic, fissured, or ulcerated, or begins to enlarge at a late stage in its history, it is a better plan to excise such a scar before an actual epithelioma develops. Plastic treatment of a scar should seldom be started until the scar has ceased contracting. This is an end-point which is difficult to determine and frequently is not reached until a year or more has elapsed since the occurrence of the injury.

The defect following excision of the scar must be filled with a skin graft. For the hand the abdominal bridge graft or the pocket graft of the thigh is suitable. Skin flaps give better results than interpolated grafts of the Wolfe-Krause type, because they have better blood supply, are less inclined to shrink, and attach themselves more readily to wounds having a scarred base. On the head and extremities, the pedicled flaps obtained from a neighboring site are desirable, if the skin there is available and uninjured by the burn. Otherwise, the flap may be transferred as intermittent "jumps" with the forearm as temporary host to the graft.

All scar cancers should receive irradiation therapy. Some of the epitheliomata may be healed by irradiation alone. If the lesion is small and irradiation is not available, the actual cautery or endothermy may suffice. It is quite important to excise all ulcers in scars at an early stage before they become malignant. Curettage of ulcers in scars is inadvisable, for it may hasten the dissemination of an unsuspected carcinoma. Local excision of scar cancer without pre-operative irradiation is unsuccessful and dangerous. If the lesions are radioresistant, surgical intervention becomes necessary and the magnitude of the procedure will depend upon the location and extent of the lesion.

Indications for amputation for scar cancer are: (1) hemorrhage caused by erosion of a large vessel; (2) when the cancer has invaded so deeply and become so adherent that excision is an impossiblity; (3) when the interior of a large articulation, such as a knee or ankle, is extensively laid open; (4) when large areas of bone are exposed, a condition which results in necrosis; (5) when a profound and uncontrollable suppuration of the wound is complicated by fever and a dangerous systemic toxemia of the patient in spite of antibiotics and sulfonamides; (6) when the functional result after a presumptive cure would be unsatisfactory, the limb becoming an encumbrance to the possessor.

SUMMARY

Carcinoma developing in burn scars are two types: The acute wound cancer occurring in quite superficial burns in older people with atrophic, keratotic skin and chronic scar cancer. Basal cell cancers developing in burn scars usually occur when the burn is superficial, sparing hair follicles and sweat glands. The potentiality of a scar to undergo malignant degeneration and the histological variety of epithelioma resulting are due to the extent of the surface area involved and to the depth of the burn.

The age of the scar is more important than the age of the individual. Cancer of burn scars may occur in younger persons if the cicatrix exists from infancy or childhood.

REFERENCES

1. Koch, S. L., and Kanavel, A. B.: *J.A.M.A.*, **92**:277, 1929.
2. Johnson, F. M.: *Ann. Surg.*, **83**:165, 1926.
3. Pack, G. T.: *Am. Jour. Surg.*, **40**:59, 1926.
4. Blair, V. P.: *South. Med. Jour.*, **16**:522, 1923.
5. Blair, V. P., Brown, J. B., and Hamm, W. J.: *J.A.M.A.*, **100**:1355, 1935.
6. McCurdy, S. L.: *Jour. Bone and Joint Surg.*, **6**:683, 1924.
7. Davis, J. S., and Kitlowski, E. A.: *Ann. Surg.*, **97**:648, 1933.

Medical Arts Building.

AN EVALUATION OF THE ANNUAL SEROLOGIC TEST PERFORMANCE STUDIES CONDUCTED BY THE VIRGINIA STATE HEALTH DEPARTMENT FROM 1940 THROUGH 1946*

E. M. HOLMES, JR., M.D.,†
Richmond, Virginia.

During the year 1937 the first survey to obtain information relative to the availability and type of procedures employed for the diagnosis of syphilis was conducted by questionnaire in fifty laboratories throughout the State of Virginia. Laboratories from which this information was obtained included those conducted privately by physicians, technician serologists, hospitals, and by State and local health departments.

Since considerable dependence is placed upon the result of serodiagnostic tests for syphilis, it was felt that some method should be made available whereby these laboratories could determine the efficiency with which they were performing these examinations.

Such a procedure was available to State laboratories but had not been recommended for general application to all laboratories. The pioneer work in developing a method for the evaluation of serodiagnostic tests for syphilis was undertaken in 1934 by a committee whose membership consisted of two clinical pathologists appointed by the American Society of Clinical Pathologists, two syphilologists, and two officers of the United States Public Health Service. Subsequently this committee recommended that the Surgeon General of the United States Public Health Service invite the health officers of the forty-eight States and the District of Columbia to participate in an evaluation study. The purpose of this study was to determine the efficiency of the performance of the various State Health Department laboratories. At the conclusion of this study, the committee made several recommendations. Among others, they advised that advantage be taken of this system of comparative examination and that an annual invitation be extended by the United States Public Health Service to all State laboratories.

In 1938 a meeting of laboratory directors and serologists was held in Hot Springs, Arkansas, under the auspices of the *Committee on Evaluation of Serodiagnostic Tests for Syphilis* and the United States Public Health Service. The purpose of the meeting was to consider means and methods to improve and make more available serodiagnostic tests for syphilis. A recommendation was presented and adopted at this meeting, suggesting that State Health Department laboratories serve in the capacity of control laboratories in evaluating the efficiency of serologic testing as performed by laboratories within the State, providing the State laboratory had in previous studies attained a satisfactory standard of efficiency.

In March, 1940, an invitation was extended by the Virginia State Health Department to all of the laboratories in the State to participate in a serologic evaluation study. In this invitation attention was called to the recent passage by the General Assembly of the Marriage Examination Law, which statute requires all persons desiring to obtain a marriage license first to have performed on themselves a serologic test. Under this new legislation, the examination of blood specimens is limited to those laboratories which are approved for this purpose by the State Health Commissioner. Naturally before such approval can be granted, the laboratory must have attained a satisfactory standard of efficiency in the performance of such serodiagnostic tests for syphilis as are performed by that laboratory. Following the precedent set by other states having marriage examination laws, it was decided by the Syphilis Committee of the State Medical Society and the staff of the State Health Department that the standard of efficiency would be determined by a serologic evaluation study similar to those conducted by the United States Public Health Service.

It was decided that for the purpose of these annual serodiagnostic evaluation studies, 55 specimens of blood would be obtained from presumably non-syphilitic donors. Internes, resident physicians, and nurses would serve as donors for this group. One hundred and eleven specimens of blood were

*Read before the National Association of American Medical Technologists.

†Formerly Director, Division Venereal Disease Control, Virginia State Department of Health.

Assistant Director Richmond City Health Department, June 1, 1947.

obtained from syphilitic donors. The syphilitic donors were selected on a percentage basis from cases in the various diagnostic stages of the disease, so many primary, secondary, latent, central nervous system cases, etc. In evaluating the efficiency with which the participating laboratories performed the examination, only specimens actually examined and reported were used in the percentage rating calculations. Complement fixation tests reported as anticomplementary were not included. In estimating the specificity ratings from non-syphilitic donors, full demerits were given for positive reports and half demerits for doubtful reports. The determination of sensitivity ratings on 111 specimens of blood from syphilitic donors were calculated on the basis of crediting one point for each positive and one-half point for each doubtful report. These standards used in the 1940 study have been followed in each succeeding study.

Thirty laboratories accepted the invitation to participate in the first State evaluation study. Two additional laboratories were included, namely, the U. S. Public Health Service Research Laboratory at Staten Island, New York, and the central Richmond laboratory of the Virginia Department of Health, both of which served in the capacity of control laboratories.

At that time a total of approximately 390,000 serologic examinations were performed annually by sixty-seven laboratories in Virginia (including the Richmond laboratory conducted by the State Department of Health). Thirty of the laboratories included in this study performed 200,000 of these examinations, and in addition 171,000 were performed by the State Department of Health. Therefore, the scope of this study included those laboratories performing 95 per cent of the annual number of serodiagnostic tests for syphilis made in the State.

In the first study with 30 laboratories participating, only 9 achieved satisfactory ratings in both sensitivity and specificity in one or more test procedures. Eighteen laboratories had satisfactory specificity and unsatisfactory sensitivity on one or more test procedures. Four laboratories had satisfactory ratings in sensitivity but failed in specificity. Five laboratories had unsatisfactory ratings in both sensitivity and specificity. These results were discouraging to the Syphilis Committee and the staff of the State Health Department. Thus it was concluded by these interested persons that evaluation studies are of value as an incentive for private laboratories to improve their standards and also to practicing physicians and the public at large. Further, it was agreed that these studies should be conducted annually and that the State Health Department should assist in the training of serologists and render consultation service in serology.

In contrast with the 1940 study, laboratories participating in the 1946 evaluation achieved a much higher ratio of success. Out of 69 laboratories participating (evaluated on 113 serodiagnostic test procedures) 49 achieved satisfactory ratings in specificity and sensitivity, while 20 of the laboratories failed because they were either too low on specificity or sensitivity or both. In the group that failed, 7 were low on specificity as contrasted to the higher percentage in the 1940 study, at which time only 9 laboratories achieved full approval under the terms of the Marriage Act.

In the 1946 study the following tests were submitted: Kahn Standard; Kahn Presumptive; Kline Diagnostic; Eagle Flocculation; Laughlen Flocculation; Mazzini Flocculation; Boerner-Lukens Microscopic; Kolmer Complement Fixation; Hinton and Eagle Modified. Out of seven laboratories submitting Laughlen, all but two had difficulty with their antigen, and, in consequence, failed because of low specificity or sensitivity.

While the results of the 1946 study were gratifying, it is believed that the need for continued State evaluation studies is increasing, and will continue to increase until better facilities for the standardization of antigens and technique are accomplished. It is to be hoped that with cardiolipin coming into more general use much of the confusion existing in the serodiagnosis of syphilis will be corrected.

Today more than ever in the history of serodiagnosis for syphilis, the need for standardization is important. In consideration of the widespread use of serologic screening procedures, premarital examinations, prenatal examinations, food handlers' examinations, and the like, care in the performance of serologic tests becomes a matter of grave importance. All too often a person is stigmatized with a diagnosis of latent syphilis based upon repeated positive serologic tests performed in a laboratory with low or variable specificity. In such instances the patient has to take long and expensive courses of treatment or be hospitalized for rapid treatment

and followed up for a minimum of five years.

I know of no other disease on which physicians depend upon the laboratory for aid to the extent that they do in the diagnosis, management and follow-up of syphilis. Therefore, it behooves all serologists and technicians to exert the greatest of care in adhering to the author-serologist prescribed technique and to see that his reagents are as near perfect as possible.

One laboratory in the last study achieved a specificity rating of 33. That laboratory was reporting a false positive test for syphilis on 67 out of every 100 bloods submitted for examination. Such a laboratory is a source of danger not only to the individual whose sera is submitted for examination but to the community that is served by the laboratory. The laboratory in question has completely revised its serologic section as the result of consultation with the senior serologist of the State Health Department and is attempting to bring its standards up to the nationally recommended level. Based on experience with this laboratory and others that have failed during the 6 years since the first study, it is urged that your association within itself request adequate laboratory facilities, including supplies and equipment, and insist upon proper working conditions. All too often a well trained technician fails in evaluation studies because of handicaps existing in the physical layout of the laboratory.

In conclusion, if all serologists will follow the author-serology prescribed technique, exert due care in the selection of reagents and equipment, and insist upon adequate laboratory space, the level of serologic test performances in this State could be improved still further.

Leading Cause of Death Among Doctors.

Fewer physicians died in 1947 than in 1946, on the basis of the obituaries published in *The Journal of the American Medical Association* during the year. According to the January 24 issue of *The Journal,* physician deaths numbered 3,040 in 1947 as compared to 3,358 in 1946 and 2,962 in 1945. During 1947, however, the American Medical Directory Report Service received reports of deaths of 3,568 physicians in the United States and possessions, or 528 more than those published in *The Journal.*

The average age of the 3,040 whose obituaries were published was 66.7 years as compared to 66.1 in 1946 and 65.3 in 1945. Two physicians lived to be more than 100 years old.

Diseases of the heart continued as the leading cause of death among physicians, with a total of 1,406 recorded. Cerebral hemorrhage, thrombosis and embolism took the lives of 384 physicians. Arteriosclerosis caused 252 deaths, an increase of 67 over 1946. Hypertension, hypertensive cardiovascular disease and cardiorenal disease contributed to 162 deaths, an increase of 71 over 1946. Diseases of the respiratory system caused 168 deaths, and 319 others were attributed to cancer and tumors. There were 49 deaths from diseases of the nervous system, 132 from diseases of the digestive system. Chronic nephritis or uremia was the commonest cause of death among diseases of the genito-urinary system, with 109 recorded.

The suicide rate decreased: 40 were recorded, as compared to 55 during 1946. There were five homicides, all due to shooting. Of the 159 accidental deaths, 68 involved automobiles. Five were collisions with trains, one a collision with a streetcar. Thirteen died in airplane crashes; nine were drowned, one when his fishing boat went over a dam. Six died of burns. One physician was killed when his tractor toppled down an embankment, and two died in the Wynecoff Hotel fire in Atlanta, Ga.

PUBLIC HEALTH

L. J. ROPER, M.D.,

State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for February 1948 as compared with the same month in 1947, and for the period of January through February 1948 compared with the same period in 1947, is as follows:

	Feb. 1948	Feb. 1947	Jan.-Feb. 1948	Jan.-Feb. 1947
Typhoid and Paratyphoid fever	9	7	19	10
Diarrhea and Dysentery	353	150	597	301
Measles	414	894	1,169	1,390
Scarlet fever	81	143	228	306
Diphtheria	12	27	49	64
Poliomyelitis	2	5	3	9
Meningitis	9	11	17	21
Undulant fever	7	2	14	2
Rocky Mountain spotted fever	0	1	0	1
Tularemia	1	8	18	24

PREVALENCE AND PREVENTION OF ROCKY MOUNTAIN SPOTTED FEVER

There were only 67 cases of Rocky Mountain spotted fever reported in Virginia during 1947, therefore the individual possibility of infection by this disease is less than 1 in each 44,000 population. However, it must be remembered that risks to the rural and suburban population groups are greater than to urban groups. Similarly, those who live in areas where the disease is most prevalent and whose occupations expose them more or less regularly to tick bite have a greater chance of contacting Rocky Mountain spotted fever.

It is significant to note that of the 259 cases which were reported throughout the State during the last three years, only 33, or 12.7 per cent, were in the area of the State west of the Blue Ridge Mountains. Eighteen of the 35 counties in this area reported no cases during this period.

GENERAL PREVENTION. The risk of infection to most individuals is slight and specific prevention is not indicated. In this connection, the policy of Virginia state and local health departments is against mass immunization. For most people the following recommendations will suffice for adequate protection;

1. Keep away from tick infested areas.
2. Clear weeds and low shrubbery adjacent to pathways regularly used.
3. Examine body for ticks, when possible exposure has occurred, paying particular attention to skin folds and hairy regions. Those constantly exposed should be examined at least once a day.
4. Remove carefully attached ticks, followed by cauterization with nitric acid, phenol or silver nitrate, of the bitten area.
5. During the tick season keep dogs and cats outside the home.

SPECIFIC PREVENTION. The state and local health departments maintain supplies of both the egg embryo and tick tissue vaccine, made available without charge by the U. S. Public Health Service. Upon application, these may be distributed in single and multiple immunization units to the medical profession of Virginia. The supplies are intended for those living or working in tick infested areas where Rocky Mountain spotted fever has occurred and when general measures of control are to be regarded as insufficient.

The egg embryo vaccine is considered preferable to the tick tissue product on the basis of local and general reaction, which is somewhat greater with the latter vaccine. However, when history of egg protein sensitivity is given the tick tissue vaccine is indicated. Allergic reaction may occur with either product, although this is seldom of serious consequence.

Immunization should be given in the late winter or early spring, and for optimal protection the full course of three injections is recommended each year. Dosage may be adjusted to age, and injections are advised at intervals of seven to ten days. Allergic history should be checked for each patient.

BIBOLIOTHECA OBSTETRICA

CHAMBERLEN, DR. PETER (1601-1683) To the Honorable House of Commons assembled in Parliament the humble petition of Peter Chamberlen, Doctor in Physick. Broadside, folio, (London), printed in the year 1646. The only recorded copy is the Thomason copy (British Museum) lacking the imprint.

Dr. Peter Chamberlen was the third generation of the famous Chamberlen family of forceps fame. The obstetrical forceps remained a secret in the family for five generations. William Chamberlen, the emigrant, came to England in 1569. Like many immigrants in this country, they were prosperous and prolific. Dr. Peter had 13 children by his first wife and five by his second wife. He had 45 grandchildren. Those who had to do with the forceps were: Peter the elder and Peter the younger, sons of William; Dr. Peter the son of Peter the younger; Hugh, Senior, Paul and John, the sons of Dr. Peter; Hugh, junior, the son of Hugh, senior; and Dr. Walker, a grandson of Dr. Peter Chamberlen. According to Aveling (The Chamberlens and the Midwifery Forceps, London, 1882), Peter the elder was the inventer of the forceps. It was in Dr. Peter's house, Woodham Mortimer Hall, in a secret cavity under the floor of a closet that the original forceps were discovered in 1818. Paul was "famous" for his anodyne necklace. Hugh, senior, tried to sell the forceps to Mauriceau and translated Mauriceau's book into English, and Dr. Walker is said to have invented the English lock. All were famous men-midwives and all except John numbered royalty among their patients.

From a librarian's point of view, none was noteworthy.

Dr. Peter was educated at Merchant Taylor's School. In 1615 he was admitted to Emmanuel College, Cambridge. From there he went to Heidelberg and to Padua, where he graduated in Medicine in 1619. He was incorporated on that degree at Oxford in 1620 and at Cambridge in 1621. His attempt to incorporate the midwives provoked a bitter controversy, and in defense he wrote "A Voice in Rhama: Or, The Crie of Women and Children", a grandiloquent autobiography. He was known among his detractors as a pamphlet monger, as he was constantly engaged in some kind of controversy, from public baths to the reconciliation of the churches, and the sprinkling of infants.

BOOK ANNOUNCEMENTS

Advances in Military Medicine. Science in World War II. Office of Scientific Research and Development. Made by American Investigators Working Under the Sponsorship of The Committee on Medical Research. Edited by E. C. Andrus, D. W. Bronk, G. A. Carden, Jr., C. S. Keefer, J. S. Lockwood, J. T. Wearn, M. C. Winternitz. An Atlantic Monthly Press Book. Little, Brown and Company Boston, 1948. Volume I—liv-472 pages. Volume II — xvii - pages 473-900. Illustrated. Cloth. Price of two volumes $12.50.

Tuberculosis. A Discussion of Phthisiogenesis, Immunology, Pathologic Physiology, Diagnosis and Treatment. By FRANCIS MARION POTTENGER, A.M., M.D., LL.D., F.A.C.P., Emeritus Professor of Medicine, University of Southern California, the School of Medicine; Medical Director, the Pottenger Sanatorium and Clinic for Diseases of the Chest, Monrovia, California. St. Louis, The C. V. Mosby Company, 1948. 597 pages. Illustrated. Cloth. Price $12.00.

Illustrative Electrocardiography. By JULIUS BURSTEIN, A. B., M.D., Visiting Electrocardiographer and Chief of the Cardiac Clinic, Morrisania City Hospital, New York; etc. And NATHAN BLOOM, M.D., F.A.C.P., Associate Professor of Medicine and Chief of the Department of Electrocardiography, Medical College of Virginia, Richmond, Virginia. Third Edition. D. Appleton-Century Company, New York, 1948. xvi-309 pages. Illustrated. Cloth. Price $6.00.

EDITORIAL

Public Demand for Service at Night Must Be Met

THE American Medical Association calls on county medical societies to meet the public demand for emergency medical service at night.

"From many sections of the United States," says an editorial in a recent (March 6) issue of *The Journal of The American Medical Association,* "complaints have come lately that persons who have called physicians late at night have been unable to secure attendance from either those whom they considered their family physicians or from specialists or, indeed, from any physician."

The American Medical Association says that large county medical societies or urban groups should maintain a physicians' telephone exchange which would take the responsibility for locating physicians if response is not made to the ringing of the telephone in the home or in the office.

The solution is simple and practical, requiring only a minimum of community organization. A number of county medical societies already maintain a physicians' telephone exchange where doctors' calls may be received and doctors located if their office of home telephones do not respond. Such an exchange can be utilized as at night or on holidays, simply by furnishing the exchange with a list of physicians who are able and willing to make night calls. Such physicians would probably include the younger general practitioners, newcomers to the community, and others in general practice. If such a roster were available, and its availability widely publicized, night calls for medical service would soon gravitate to this center and the patient would be assured the services of a physician.

Under such a system the necessity for calling many doctors would be eliminated. Two calls at most would be necessary. Where there is no physicians' telephone service, it might be possible to have the hospitals cooperate by handling such night calls.

The Medical Society of the District of Columbia and the Milwaukee County Medical Society have found such a plan practical, as have a number of other societies.

By this simple and practical expedient, which is doubtless in effect in modified form in a number of communities, the sick can be served and the medical profession can redeem its pledge of unselfish public service.

It is highly important that where such arrangements exist they be brought to the attention of the lay people in the community through appropriate public channels, not once but repeatedly, to keep the shifting populations well informed.

Few problems in the field of medical service have aroused so much public discussion. Whether resentment against physicians is justified or not, it does harm. The solution for this problem is so eminently simple and would reflect so favorably upon physician-patient relationships that medical societies everywhere are urged to give it serious consideration immediately.

GEORGE F. LULL, M. D.,
Secretary and General Manager,
American Medical Association.

The Cost of Federalized Medicine

LAST month in our editorial "Wholesale and Retail Medicine" we made a slight error when we stated that the cost of Federalized medicine was estimated to cost 300 billion dollars. We confess that such tremendous figures as billions bewilder us. The figure that we had in mind was three billion dollars a year. That was the

figure, if we remember correctly, that was used in the hearings on the Murray-Wagner-Dingell bill. We find that three billion is an understatement. In a recent study "Compulsory Health Insurance", Elizabeth Webb Wilson breaks down the probable costs under the Murray-Wagner-Dingell bill. Dr. Wilson served as head computer in ballistics unit of Ordnance Department, U. S. Army, in World War II, and was associate actuarial mathematician Social Security Board 1943-44. She is qualified to talk in terms of billions. She estimates that the general practitioner-specialist benefit would cost $12.00 for each person insured. Two-thirds of this would go to the general practitioner and the rest to the specialist. This would give the doctors an income only about equal to what they get at present, and for which they would have to do more work than they ever had to do before during peacetime. The hospital benefit would cost about $12.00 per capita. Laboratory and X-ray benefit would be at least $2.50 per capita even for a limited benefit. Appliances would cost $3.25 and drugs might easily reach $9.00 or possibly $10.00 per capita. She uses the lower figure as a rough estimate. The irreducible minimum of medical benefits provided in the bill would total $3.4 billion without allowance for administration. If complete coverage of laboratory appliances and drug expense be added, which can be done at the discretion of the Surgeon General of the Public Health Service, it will amount to almost $2 billion more. Then there are dental and nursing benefits. Using the schedule now in use by the Veterans Administration, complete maintenance care would cost $29.00 and the average cost of complete initial care would be somewhat between $55 and $70.00. If graduate nurses be paid at a rate of $2,530 a year and practical nurses at $1,600, the nurses' benefit would cost $1.25 per capita. The cash benefits which would partially indemnify the wage loss for the first six months of illness, would be at least 1¼ per cent or possibly 1½ per cent of the covered payroll from the very beginning. The over-all cost has been estimated by experts to be from "more than $11½ billion" to "more than $14½ billion".

Mortality Rates for 1946

ACCORDING to the figures of the National Office of Vital Statistics, the year 1946 made a new low record, 10.0 per 1,000 population as compared with 10.6 for 1945. The estimated death rate for the first ten months of 1947 is 10.1. These rates are for continental United States and exclude overseas armed forces. The rates are all the more remarkable in that a large segment of the healthiest part of the population, i.e., young adults who have passed a general physical examination, were eliminated from the calculations.

A break down of the causes of death shows some shifting in the leading causes. For the first time pneumonia and influenza (combined) has not been among the top five causes of death. For the third consecutive year, deaths from diseases of the heart have increased. In 1946, 429,230, or 30.8 per cent of all deaths, died of this cause. Cancer also showed an increase, killing 182,005 in 1946, or 13 per cent of the total number of deaths. Fatalities from other chronic diseases decreased. There were 125,646 deaths from intracranial lesions of vascular origin as compared with 129,144 in 1945; 81,701 deaths from nephritis as compared with 88,078 in 1945; and 34,731 deaths from diabetes mellitus as compared with 35,160 in 1945. The total deaths from pneumonia and influenza dropped 8.9 per cent and those from tuberculosis 3.8 per cent. While the number of births increased approximately 20 per cent in 1946, maternal deaths decreased from 5,668 in 1945 to 5,153 in 1946, thus establishing a new all-time low in maternal mortality.

Rural Health Problems in Illinois

ILLINOIS has its rural health problems as well as Virginia. They too need doctors, nurses, hospitals, and adequate public health measures in the rural communities. In Illinois they have the conviction that only country bred boys and girls will stay on the farm after they have had a medical training, and they have set about solving their problems in a realistic manner. The Illinois Agricultural Association and the Illinois State Medical Society have jointly raised a fund of $100,000 for financing medical education for farm boys. This fund is to be administered by a "Farmer and Doctor Loan Fund Board". Students seeking loans under the plan must conform to certain requirements. Each must agree to return to a town of less than 5000 population (the smaller the better) in his home county and practice general medicine, not a specialty. The student must be a native of the county from which he applies, unable to finance his training, and be free from debt. He must be recommended by both the local medical society and the farm bureau. His training must be taken in an approved medical school. There are certain other provisions to protect the fund in case of death or if the student abandons his medical training.

In order to set forth the problems of rural health, the Illinois State Medical Society has prepared an attractive pamphlet entitled "Doctors and Horses" to be distributed from the Society's exhibit at agricultural fairs. In the foreword this pamphlet states that the horse and the doctor are fast disappearing from American farm communities, but unlike the horse the doctor can not be replaced by gasoline powered monsters that the farmer uses today. To meet the farm community health needs there are four requirements: 1. plenty of properly trained physicians; 2. plenty of nurses; 3. plenty of hospital beds; 4. adequate public health measures.

Under 1, the pamphlet emphasizes that more country boys must study medicine and do it with the intention of returning to rural areas to practice. Only the brightest, strongest and best, mentally, morally and physically, can win through, but if such a boy has the courage and determination and lacks the means, ways can be found to finance his medical education.

Under 2, it is stated that more nurses are needed than doctors, because nursing inevitably loses a large proportion of its trained personnel in marriage. Like the rural doctor, the rural nurse must come from the farm community. The advantages of nursing as a livelihood over other occupations are explained.

3. The pamphlet emphasizes the fact that initiative in the hospital program must come from the community, and moreover the community must maintain the hospital even if outside funds are available to build it. The hospital should be large enough to be efficient. A small town could no more support an adequate hospital than a 20-acre farm could support a combine. By careful planning, an efficient hospital could serve a number of communities adequately.

4. Modern life, even in rural areas, has become complicated and health protection is needed. Supervision is needed over water and food supply, and against the transmission of disease by insects and to immunize babies against whooping cough, diphtheria, and smallpox, and to vaccinate against typhoid, dysentery, etc., as well as to test and immunize cattle against tuberculosis, brucellosis, etc.,—in fact to do all the things which have doubled the life expectancy of Americans in the last century.

Finally, as a means of bringing all this about the community should form a Health Council. The job is too big for any one group. It needs the help of the doctors, dentists, and nurses, the ministers and priests, the lawyers and bankers and business men, the leading clubs and lodges, the teachers, the women's groups, civic and school, and the official agents. With such a Council, the community can get anything that it wants.

SOCIETIES

The Wise County Medical Society

Met at Hotel Norton, February 25th and enjoyed a fine banquet as guests of the resident staff, Dr. C. L. Harshbarger and his associates, of the Norton General Hospital.

A resolution was passed authorizing the Board of Censors to investigate and act in the matter of illegal practitioners, one especially at Appalachia.

The following officers were elected for the ensuing year:

Dr. C. H. Henderson, President; Drs. D. C. Keister, J. D. Culbertson, and L. E. Ball, Vice Presidents; and Dr. T. J. Tudor, Secretary and Treasurer, re-elected.

Dr. A. H. Bond is to replace Dr. S. H. Rivers on Board of Censors.

The concluding feature was "To Hear Again" a U. S. Army Sound film, which held the interest of the group for 37 minutes.

The next meeting of the Society will be held on April 14th at Appalachia where they will be guests of Dr. W. B. Barton and his medical staff of the Stonega Coke and Coal Company.

T. J. TUDOR, *Secretary-Treasurer*

Alexandria Medical Society.

At the regular meeting of this Society on March 11th, the subject for the program was Red Cross Blood Bank, and the speakers were Rear Admiral George B. Dowling, MC, USN, (ret), Deputy Adminstrator of the National Blood Program of the American Red Cross, and Dr. Bernard McD. Krug, Medical Director and Administrator of Health Services, Eastern Area Headquarters of the American Red Cross.

Dr. Harrison Picot and Dr. George Speck are president and secretary, respectively, of this Society.

Lynchburg Academy of Medicine.

At the regular monthly meeting of the Academy, held March 8th, with Dr. H. L. Riley presiding, Dr. John T. T. Hundley presented a paper on "Medical Public Relations, the Problem and a Suggested Program".

Roanoke Academy of Medicine.

At the March meeting of the Academy, the following program was presented: Cryptorchism by Dr. Lloyd G. Lewis, Associate Professor of Urology at Georgetown University; and The Diagnosis and Management of Appendicitis in Children by Dr. R. Franklin Carter, Clinical Professor of Surgery at the New York Post-Graduate Medical School, Columbia University.

Virginia Peninsula Academy of Medicine.

Guest speaker at the meeting of the Academy on March 15 was Dr. William Roberts Sandusky, Assistant Professor of Surgery and Gynecology at the University of Virginia, who came upon the invitation of Dr. Edward V. Siegel of Newport News. Dr. Sandusky's subject was "Polyps of the Large Intestine". There was an attendance of seventy-one. Dr. Paul Hogg of Newport News presided and Dr. Chester D. Bradley, also of Newport News, was at the secretary's desk.

NEWS

Richmond Meeting, Medical Society of Virginia.

In the March Monthly, appeared dates and names of the Local Committee for the Richmond meeting of the Medical Society of Virginia. Richmond has ample hotel accommodations to care for visiting doctors and their wives but, to insure a reservation at the hotel of your choice, it would be well to make them now. Names of hotels with their rates are given below:

HOTEL JOHN MARSHALL
Singles—$5.00, $5.50, $6.50 and $7.50
Doubles—$8.00, $8.50, $10.00 and $15.00

HOTEL RICHMOND
Singles—$3.75, $4.25, $4.75 and $5.25
Doubles—$6.00, $6.50, $7.00 and $7.50
Twins—$7.00 to $9.50.

HOTEL WILLIAM BYRD
Singles—$3.50, $4.00, $4.50, $5.00, $5.50, $6.00 and $7.00.
Doubles—$6.00, $6.50 and $7.50
Twins—$7.00, $7.50, $8.00 and $9.00

HOTEL MURPHY
Singles—$3.50, $4.00 and $4.50
Doubles—$5.50, $6.00 and $7.00
Twins—$6.00 and $7.00

HOTEL JEFFERSON
Singles—$3.50, $4.00, $5.00 and $6.00

Doubles—$5.50, $6.00, $7.00, $8.00, $9.00 and $10.00

HOTEL RUEGER

Singles—$3.00 to $4.00

Doubles—$4.50 to $6.50

State Department of Health.

RHEUMATIC FEVER PROGRAM

The Crippled Children's Bureau was made a separate bureau of the State Department of Health as of November 1, 1947. The Rheumatic Fever Program remains under this Bureau.

Dr. Carolyn McCue, instructor in Pediatrics at the Medical College of Virginia, has been appointed pediatrician in charge of the State Health Department's clinic located in Richmond.

Dr. Reno Porter, consulting cardiologist for the Veteran's Hospital and Director of Cardio-vascular Research at the Medical College of Virginia, is consulting cardiologist for the State Health Department's Rheumatic Fever Program.

Dr. McLemore Birdsong and Dr. Margaret Glendy serve as pediatricians in the State Health Department's Rheumatic Fever clinics in Harrisonburg and Roanoke, respectively. Dr. Birdsong, a graduate of the University of Virginia and at present Associate Professor of Pediatrics at the University, received his training in the Boston Children's and Infant's Hospital and the Good Samaritan Hospital in Boston. Dr. Glendy, also a graduate of the University of Virginia, received her training in the Massachusetts General Hospital and in the Children's Heart Clinic there under Dr. Paul White.

Dr. Hubert T. Dougan is pediatrician for the State Health Department's Rheumatic Fever Clinic, which is located in Portsmouth. He is a graduate of the Medical College of Virginia and served his pediatric residency at the same medical center and at the Children's Hospital, Cincinnati. He also served two years in the Medical College of Virginia Rheumatic Fever Clinic.

HEALTH DISTRICT NEWS

Appomattox was added to Campbell and Charlotte counties on March 1, forming the Appomattox-Campbell-Charlotte Health District.

The cities of Waynesboro and Staunton joined with Augusta county to form the Augusta-Staunton-Waynesboro Health District, effective March 1, 1948.

News from the University of Virginia School of Medicine.

On February 20th, as guest speaker on the Postgraduate Program for House Officers, Dr. Reginald H. Smithwick of Harvard University spoke on the subject "Surgery of the Autonomic Nervous System".

Dr. Charles L. Gemmill, Professor of Pharmacology, gave a lecture on "General Principles and Purposes of Tracer Studies" in the course in Medical Aspects of Radioactivity given at the Naval Hospital, Bethesda, Maryland on February 23.

At the meeting of the North Carolina Conference on Rural Health, held in Chapel Hill, N. C. on February 28th, Dr. H. B. Mulholland, Professor of Practice of Medicine, spoke on the subject "National Plan for Rural Health".

Dr. E. P. Lehman, Professor of Surgery, presented a paper entitled "Diagnosis of Infection Following Chemo-therapy and Anti-biotics" before the Chicago Clinical Conference on March 2.

On the recommendation of the Committee on Growth of the National Research Council, the grant of $9,500 from the American Cancer Society to Dr. C. L. Gemmill, Professor of Pharmacology, for the support of research in Effect of Drugs on Glycolysis, has been renewed.

On March 3, Dr. Preston B. Lowrance was selected as a Scholar in Medical Science by the Board of Directors of the John and Mary R. Markle Foundation. Dr. Lowrance was one of sixteen scholars selected from candidates nominated by accredited medical schools in the United States and Canada by regional committees, appointed by the Foundation. As a faculty member of the University of Virginia Medical School, Dr. Lowrance will devote the next five years to teaching and research in cardiovascular disease, in support of which he will receive from the Foundation $25,000, payable at the rate of $5,000 annually for five years. The purpose of the Markle Foundation Program is to strengthen medical schools with more and better teachers and research workers.

On March 16th, as guest speaker on the Postgraduate Program for House Officers, Dr. Paul B. Beeson, Professor of Medicine at Emory University, spoke on the subject, "Fever".

Dr. W. H. Springall,

Who for the past ten years has been in general practice at Gloucester, left on April 1st for Fredericksburg, Texas, where he will be connected with the Fredericksburg Hospital and Clinic. He is a graduate in medicine from the University of Virginia in 1936.

Dr. Raymond Brown

Has located for general practice at Gloucester where he will take over the practice of Dr. Springall. He is a graduate of the Medical College of Virginia in 1945 and until recently he has been in the Medical Corps of the U. S. Navy.

The Virginia Orthopedic Society

Met in Richmond on March 5 and 6, and was attended by all but two of the orthopedic surgeons in the State. At the first session on Friday afternoon, Dr. Ernest Carpenter of the Tumor Clinic of the Medical College of Virginia spoke on Bone Tumors, and Dr. Josephine Buchanan, of the Department of Physical Medicine at the College, gave a demonstration of paraplegics. The evening session was followed by dinner at the Commonwealth Club after which there was a short business session.

The Saturday morning session was at the Crippled Children's Hospital and was followed by luncheon there. Dr. John R. Cobb, invited guest from the Hospital of Special Surgery of New York City, was the speaker, his subject being Scoliosis—Review of Operative Cases for the Past Two Years. So great was the interest in this subject that he talked for approximately two hours, and the meeting was continued after the luncheon.

Dr. James T. Tucker of Richmond is president of the Society, and Dr. H. H. Wescott of Roanoke secretary.

Accommodations at DeJarnette State Sanatorium.

The following information has been received from Dr. C. Earle Johnson, Jr., Superintendent:

"Due to the evolution of a new operating policy for the DeJarnette State Sanatorium at Staunton, Virginia, it was necessary at one time to curtail admissions. In certain quarters, the impression has persisted that we are not admitting any new cases. We wish to correct this impression and hope that you will see fit to publish this letter so that the practicing physicians of the State will know that accommodations are usually available. The Sanatorium is a State institution. It is the Superintendent's desire that its services to the people not be limited by the erroneous impression that no patients are being accepted."

Postgraduate Course in Electrocardiography.

Emory University School of Medicine, Atlanta, announces a five-day intensive course, May 17-21, presenting a comprehensive survey of electrocardiography. Emphasis will be placed on the clinical interpretation of the electrocardiogram in the light of modern excitation theories and the newer techniques in electrocardiography. The uses and interpretation of multiple chest leads, unipolar leads, the ventricular gradient and variation in normal patterns will be stressed. In addition to the Emory University Faculty, guest speakers who will participate in the program are Dr. George Burch, Tulane University, and Captain Ashton N. Graybiel, MC, U. S. Navy.

Information may be obtained from the Director, Postgraduate Education, Emory University School of Medicine, 36 Butler Street, S. E., Atlanta 3, Ga.

Dr. H. Charles Ballou,

Recently at the Veterans Administration Hospital, Richmond, is locating at White Sulphur Springs, West Virginia, on April the 1st, where he will be associated with Dr. James P. Baker at the Greenbrier Clinic.

Dr. R. D. Garcin, Jr.,

Richmond, announces the removal of his office to 318 North Twenty-Fifth Street, where he will limit his practice to internal medicine.

The American Society for the Study of Sterility

Is holding its Fourth Annual National Session on June 21 and 22, at the Congress Hotel in Chicago. The program will be divided into a special series of panel discussions on male infertility, with papers to be read on female and miscellaneous infertility on the second day.

Additional information may be obtained from the secretary, Dr. John O. Haman, 490 Post Street, San Francisco 2, California.

Professor Karl Lindner,

Chief of the Eye Clinic, Vienna, Austria, delivered the following lectures at the Gill Memorial

Eye, Ear and Throat Hospital, Roanoke, on February 23-25: New Operations; Clinical Bacteriology; Normal Clinic and Pathology of Vitreous; Illustration of Fundus Examination with the Slit Lamp; Slit Lamp Examination of Vitreous; Retinal Detachment, Etiology and Treatment; Etiology and Prophylaxis of Myopia; and Therapeutics and Refraction.

VA's Medical Education Program.

Two faculty members from the Jefferson Medical College of Philadelphia delivered two talks each at the Roanoke Veterans Administration Hospital on March 12.

Arranged by Dr. Lee G. Sewall, Chief of Professional Services, as part of VA's medical education program, the lectures were open to all physicians and were held in the afternoon and evening in the staff room of the hospital.

The speakers and their topics for the opening session were: Dr. Louis H. Clerf, Professor of Bronchoscopy, "Carcinoma of the Larynx", and Dr. Hobart A. Reimann, Professor of Medicine, "Minor Diseases of the Respiratory Tract".

At the night session, Dr. Clerf discussed "Bronchoscopy as a Diagnostic Aid in Bronchopulmonary Disease", and Dr. Reimann spoke on "Pneumonias".

On March 13, the visiting physicians made ward rounds at the 2,000-bed Roanoke hospital with staff members of the medical and surgical services.

Dr. Grover Lee Moore,

Recently connected with the Wytheville (Va.) Hospital, has moved to 510 Commerce Street, Portsmouth, to engage in the private practice of medicine.

The Neuropsychiatric Society of Virginia

Held its winter meeting at the Academy of Medicine, Richmond, on February 25, under the presidency of Dr. Rex Blankinship of Richmond. Guest speakers were: Dr. John C. Whitehorn of Baltimore, speaking on "Psychotherapy" and Dr. George D. Weickhardt of Washington, whose subject was "Recent Developments in the Treatment of Neurosyphilis". Dr. Ebbe C. Hoff of Richmond gave a paper on "The Effects of Dilantin on Anoxia Tolerance" and Dr. P. H. Drewry, also of Richmond, presented a case report. A dinner at the Academy of Medicine followed the scientific session.

Dr. James K. Morrow of Radford is secretary.

Southwestern Virginia Medical Society.

The semi-annual meeting of this Society will be in Bristol, at the General Shelby Hotel, May the 6th, under the presidency of Dr. Douglas D. Vance of that city. There will be afternoon and night programs, the latter featuring a banquet and guest speakers. The secretary is Dr. Andrew F. Giesen, Radford.

American College of Chest Physicians.

The Board of Examiners of the American College of Chest Physicians announces that the next oral and written examinations for Fellowship will be held at Chicago, June 17. Candidates for Fellowship in the College, who would like to take the examinations, should contact the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

The fourteenth annual meeting of the College will be at the Congress Hotel, Chicago June 17-20. An interesting scientific program has been arranged for this meeting, and speakers from several other countries are scheduled to appear.

The National Gastroenterological Association

Will hold its thirteenth scientific session at the Hotel Pennsylvania in New York City on June 7-10, 1948.

In response to popular request the program this year will again for the most part consist of symposia for the first three days and there will be one Panel Discussion, which will be followed by a "question and answer" period.

The fourth day of the session will be devoted to a clinical day at cooperating hospitals in New York City.

Further details and a copy of the program may be obtained by writing to the Secretary, National Gastroenterological Association, 1819 Broadway, New York 23, New York.

OBITUARIES

Dr. Walter Dennis Kendig,

Of Kenbridge, prominent Southside Virginia physician and State Senator from the Ninth District, died suddenly on March the 16th of a heart attack, shortly after he had completed a talk before the Farmville Rotary Club on happenings during the recent session of the General Assembly. Dr. Kendig, a native of Spotsylvania County, was

sixty-seven years of age. He graduated in medicine from the Medical College of Virginia in 1905 and joined the Medical Society of Virginia the same year. He was active in civic as well as professional affairs of his community. He was on the Board of Directors of the Bank of Lunenburg, a former president of the Kenbridge Chamber of Commerce, on the Board of Visitors of the Medical College of Virginia, and a former vice-president and a member of important committees of the Medical Society of Virginia. His wife, a son and daughter survive him.

Dr. Benjamin Adoneram Doggett,

Prominent Norfolk physician, died February 27th. He was fifty-five years of age and a graduate of the Medical College of Virginia in 1915. Dr. Doggett had been a member of the Medical Society of Virginia for twenty-seven years. His wife and a daughter survive him.

Dr. Littleton Davis,

Prominent pediatrician of Roanoke, died January 14th of coronary thrombosis. He was sixty-six years of age and graduated from the former University College of Medicine, Richmond, in 1909. Dr. Davis had practiced in Roanoke for thirty-five years. He was a member of the Medical Society of Virginia. His wife and a daughter survive him.

The following resolutions were unanimously adopted by The Roanoke Academy of Medicine on February 2nd.

WHEREAS: God in His infinite wisdom has seen fit to remove from our midst Dr. Littleton Davis, we have lost a valuable member of our profession.

He was the pioneer pediatrician in Southwest Virginia and as such stimulated interest in better medical care for infants and children. He was influential in establishing clinics for children and he was the first school physician in Roanoke. He held the respect and admiration of the profession and the community.

We hereby express our sincere sympathy to his widow and daughter.

BE IT RESOLVED that the Secretary of The Roanoke Academy of Medicine be instructed to include these resolutions in the minutes of this meeting, a copy be forwarded to the family of Dr. Davis, and a copy be forwarded to the VIRGINIA MEDICAL MONTHLY.

W. L. POWELL
A. D. SHAPIRO
J. M. BISHOP
Committee.

Dr. Ernest Mosby,

For many years a prominent physician of Waynesboro, died at this home in that place on January 29 after a long illness. He was seventy-one years of age and a graduate in medicine from the Medical College of Virginia in 1899. He was for some years a member of the Medical Society of Virginia.

Dr. Thomas V. Williamson,

Well known urologist of Norfolk, died December 29, 1947. He was born near New Market, Va., in January 1883, and graduated in medicine from the University of Virginia in 1908. After a post-graduate course in urology, he located in Norfolk where he had since practiced except for the time he was in service during World War I. He served for a number of years on the Urological Clinic Staffs of the Norfolk Protestant and DePaul Hospitals and took interest in community affairs.

Resolutions on the Death of Doctor Julian Lamar Rawls

The Norfolk County Medical Society records, with sorrow, the passing on January 18th of one of its most outstanding, energetic, and progressive members, Doctor Julian Lamar Rawls; born July 26, 1881, at Carrsville, Isle of Wight County, Virginia; son of Doctor Gavin Rawls and Susan Norfleet Rawls.

He received his education at the Franklin Academy, and at the University of Richmond. He graduated in medicine at the Medical College of Virginia in 1904; and served as interne at Saint Vincent de Paul Hospital, 1904-05. Since then he has been active in various surgical clinics in and around Norfolk; and was largely instrumental in establishing the Tumor Clinic in this section.

He has been honored by being elected President of the Norfolk County Medical Society, The Seaboard Medical Association, The Southeastern Surgical Congress, The Association for the Study of Neoplastic Diseases, and the Medical Society of Virginia. He was an active member of the American Medical Association, American College of Surgeons, and other scientific organizations.

He also won the Shelton Horsley Memorial Award of Merit, presented by the Virginia Division of the American Cancer Society, in recognition of his contribution towards cancer control.

RESOLVED: That in the death of Doctor Rawls, this Society has lost a most valued and progressive friend, and member, and

BE IT FURTHER RESOLVED: That a copy of these resolutions be spread on the minutes of the Society; and a copy be sent to his family; and to the VIRGINIA MEDICAL MONTHLY.

P. ST. L. MONCURE, *Chairman*
W. L. HARRIS
WALTER B. MARTIN

Uniformity

Dependability in digitalization and maintenance

Sensible economy

Pil. Digitalis (*Davies, Rose*)

0.1 Gram (1½ grains)

Physiologically Standardized

Each pill contains 0.1 Gm. (1½ grs.) Powdered Digitalis, produced from carefully selected leaf of Digitalis purpurea, therefore of an activity equivalent to 1 U.S.P. XII Digitalis Unit.

When Pil. Digitalis (*Davies, Rose*) are dispensed on a prescription, the physician is assured that the patient receives digitalis in its completeness and obtains the full benefit of the therapy.

Trial package and literature sent to physicians on request.

Davies, Rose & Company, Limited

Manufacturing Chemists, Boston 18, Massachusetts

D21

This baby's mother learned about Mead's Oleum Percomorphum from her physician, not from public advertising or displays.
"Servamus Fidem"
HOW much sun does the infant really get?
Not very much: (1) When the baby is bundled to protect against weather or (2) when shaded to protect against glare or (3) when the sun does not shine for days at a time. Mead's Oleum Percomorphum is a prophylactic against rickets available 365¼ days in the year, in measurable potency and in controllable dosage. Use the sun, too.
Mead Johnson & Co., Evansville, Ind., U.S.A.

THE N.Y. ACADEMY OF MEDICINE
MAY 11 1948
L. . . . Y

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Medical Legislation in the 1948 Virginia General Assembly. Robert C. Duval, Jr., Attorney, Richmond, Va. ------ 213

Contributions of the 1948 General Assembly in the Field of Health. L. J. Roper, M.D., Richmond, Va. ---------- 217

The Management of Early Syphilis. Dudley C. Smith, M.D., and Robert C. Thompson, M.D., Charlottesville, Va. -- 219

Q Fever—A Case Report. Thomas J. McGurl, Jr., M. D. and John P. Williams, M.D., Richmond, Va. ---------- 225

Treatment of Phlebitis and its Complications. I. A. Bigger, M.D., Richmond, Va. ---------- 229

Report on the Infestation of Intestinal Parasites Throughout Virginia. Lula W. Garst, M. D. and A. W. Bengtson, Catawba Sanatorium, Va. ---------- 231

Vocational Rehabilitation, A Resource For Physicians. Roy M. Hoover, M.D., Roanoke, Va. ---------- 233

Hemoglobin Studies on Albemarle County School Children. Thomas S. Englar, M.D., Charlottesville, Va., Ruth Blakely, M.S., Jacksonville, Fla. and Walter Wilkins, M.D., Jacksonville, Fla. ---------- 236

Gastric Resection for Peptic Ulcer—A Clinical Study of Seventy-Two Cases. Hack U. Stephenson, Jr., M.D., F.A.C.S., Hines, Illinois ---------- 241

Management of Peripheral Vascular Disease. Nathan Bloom, M.D., Richmond, Va. ---------- 248

Continued on page 6.

Annual Meeting
Medical Society of Virginia
Richmond, October 18-20, 1948

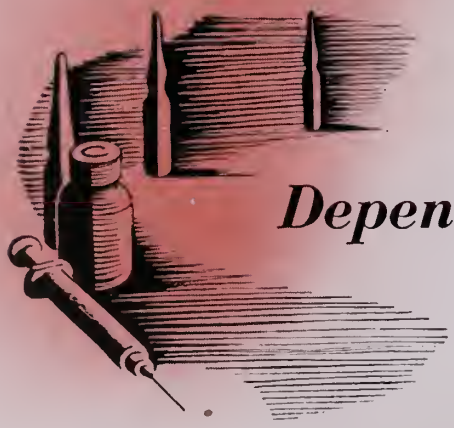
May, 1948

THEELIN:

continuing

Naturally occurring

Pure crystalline



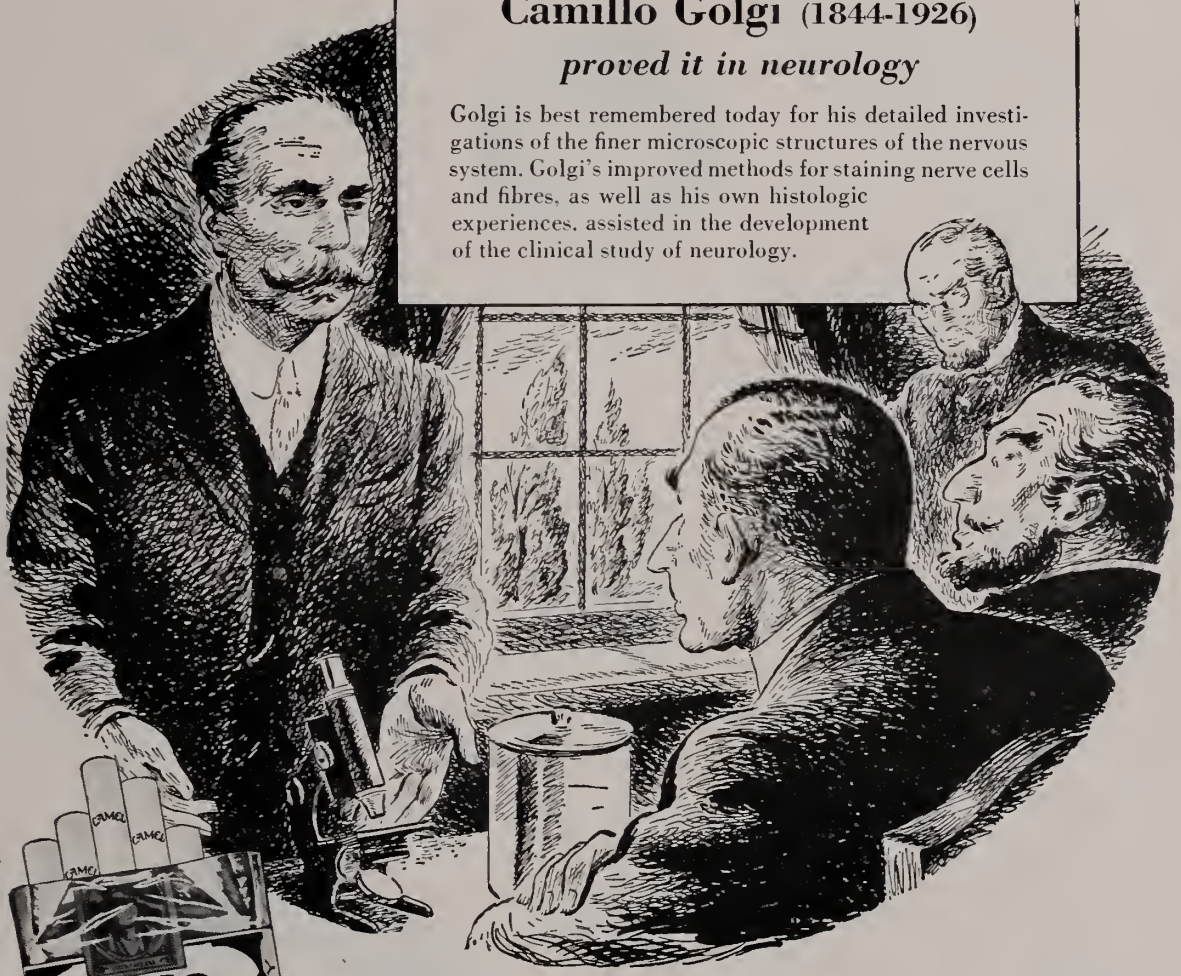
Dependable estrogen

Experience is the Best Teacher

Camillo Golgi (1844-1926)

proved it in neurology

Golgi is best remembered today for his detailed investigations of the finer microscopic structures of the nervous system. Golgi's improved methods for staining nerve cells and fibres, as well as his own histologic experiences, assisted in the development of the clinical study of neurology.



R. J. Reynolds Tobacco Company
Winston-Salem, N. C.

Experience is the best teacher in cigarettes, too!

With millions of smokers who have tried and compared different brands of cigarettes, Camels are the "choice of experience." Try Camels! See how your taste welcomes the rich flavor of Camel's choice, properly aged, expertly blended tobaccos. See if your throat doesn't find Camel's cool mildness mighty pleasing.

Yes! Let your own experience tell you why more people are smoking Camels than ever before.

According to a Nationwide survey:

More Doctors Smoke CAMELS than any other cigarette

Three leading independent research organizations in a nationwide survey asked 113,597 doctors what cigarette they smoked. The brand named most was Camel!

IT MAKES A LOT OF DIFFERENCE WHAT DIAPER SERVICE A DOCTOR RECOMMENDS!

RICHMOND

ASHLAND, BON AIR, HIGHLAND SPRINGS, SANDSTON

Stork Diaper Service, Inc.,
3119 W. Moore Street,
Phone 5-2113

NEWPORT NEWS AND HAMPTON

Bi-Weekly delivery anywhere on the lower Peninsula

Di-De Service,
424 Catalpha Avenue, Hampton
Phone 4-1492

These diaper services meet the strict sanitary and hygenic standards of the National Institute of Diaper Services. Their products are under "National Laboratory Control", periodically checked by chemists and bacteriologists to maintain 100% safety.

DOUBLE PROTECTION

PERM-ASEPTIC PROCESSED

"Perm-Aseptic is to diapers what Pasteurization is to milk."

The American Way

is peace, prosperity, and goodwill toward our fellow man—to invest our time in educating and learning; and our money in good citizens and fine institutions.

One of the finest institutions of your State is Richmond Hotels Incorporated, one that maintains the highest modern hotel standards . . . one that combines the hospitality and charm of the old and the convenience and comfort of the new.

John Marshall Murphy *William Byrd Richmond*

Richmond Hotels Incorporated

CONVENIENTLY LOCATED THROUGHOUT VIRGINIA

- Alexandria
- Bristol
- Danville
- Fredericksburg
- Harrisonburg
- Newport News
- Norfolk
- Winchester
- Petersburg
- Portsmouth
- Richmond
- Roanoke
- Staunton
- Suffolk

"the substance from which they obtain the greatest comfort"...

"Some patients are relieved of hot flushes by synthetic drugs, but fail to obtain quite the sense of well-being they experience when given natural estrogens; there is no reason to deny these patients the substance from which they obtain the greatest comfort."[1]

AMNIOTIN, Squibb complex of natural mixed estrogens, does *more* than relieve climacteric flushes and sweating. The patient not only experiences a feeling of well-being, but increased strength and vigor and "a greater sense of general relief, exclusive of the amelioration of hot flashes."[2] These advantages, long attributed to natural estrogens, are attained with Amniotin therapy.

Amniotin is well tolerated. It is readily metabolized by the body, and detoxified by the liver. Moreover, the natural estrogens in therapeutic doses are less likely to induce menopausal bleeding or hyperplasia of the endometrium.[3]

Whether symptoms are mild, moderate or severe, oral and intramuscular forms of Amniotin in a variety of potencies fulfill every need. Capsule suppositories are also available.

BIBLIOGRAPHY:

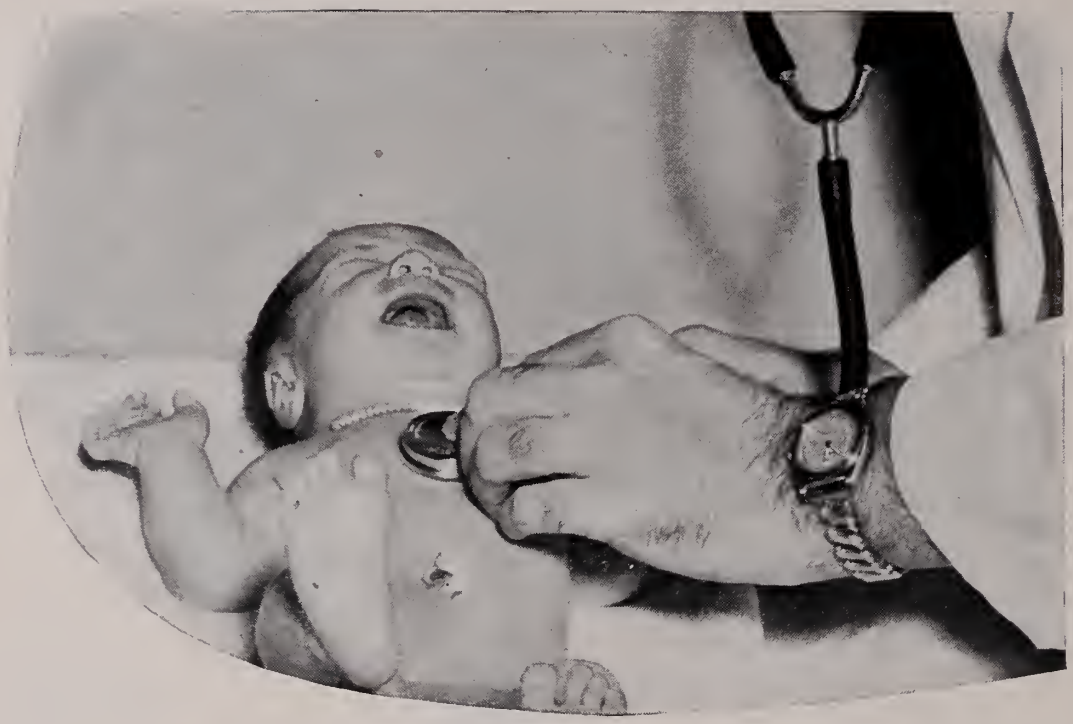
1. *Texas State J. Med.* 52:683 (Apr.) 1947.
2. *J. Clin. Endo.* 3:89 (Feb.) 1943.
3. *J.A.M.A.* 134:1141 (July 26) 1947.

Amniotin
TRADEMARK

COMPLEX OF NATURAL MIXED ESTROGENS

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858



When life is measured in days

Not years, nor months, but days measure the life of a new-born infant. And during the first 30 days when infant mortality is at its highest, every effort must be made to minimize the hazards to life. At this critical time, the right start on the right feeding can be of vital importance.

'Dexin' has proved an excellent "first carbohydrate." Because of its high dextrin content, it (1) resists fermentation by the usual intestinal organisms; (2) tends to hold gas formation, distention and diarrhea to a minimum, and (3) promotes the formation of soft, flocculent, easily digested curds.

Readily prepared in hot or cold milk, 'Dexin' brand High Dextrin Carbohydrate is palatable but not too sweet. 'Dexin' *does* make a difference.

'Dexin' HIGH DEXTRIN CARBOHYDRATE
BRAND

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.
'Dexin' Reg. Trademark

Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N. Y.

Virginia Medical Monthly

Vol. 75. No. 5
WHOLE No. 1151

RICHMOND, VA., MAY, 1948

25 CENTS A COPY
$2.00 A YEAR

MEDICAL LEGISLATION IN THE 1948 VIRGINIA GENERAL ASSEMBLY

ROBERT C. DUVAL, JR., ATTORNEY
Richmond, Virginia.

The 1948 session of the General Assembly of Virginia considered many matters of interest to the medical profession, and made some substantial changes in the existing statutes. A number of bills which were not in the public interest were decisively defeated. The purpose of this report, which is made on behalf of the Committee on Legislation of the Medical Society of Virginia, is to give accurate information on these matters to members of the Society throughout the State.

CHIROPRACTORS AND NATUROPATHS

The anticipated drive of the chiropractors and naturopaths for full licenses without any adequate test of competency developed early and was pressed hard as long as there was any possibility of success. However, the booklet prepared and distributed by the Committee before the session convened, and the work done by physicians locally before and during the session, gave the members of the General Assembly a lot of accurate and helpful information on the whole problem, and created a sympathetic understanding of the position of the medical profession with respect to the activities of these sectarians.

In January the Virginia Chiropractors Association sent out letters to hundreds of patients of chiropractors urging them to wire or write their representatives in the General Assembly not to "tolerate the railroading of chiropractors out of the State because the medical monopoly wants to eliminate them". The contents of these letters led many members of the General Assembly to believe that the medical profession had on hand proposed legislation the enactment of which would result in the immediate expulsion of these healers from the State, a rather amusing situation in view of the fact that the profession had no plans for any sectarian legislation whatsoever. At all events these appeals brought down a deluge of letters on the members of the House and Senate, many of these sent under a complete misapprehension of the current problems of sectarian licensure.

On January 28th and 29th, two weeks after the session commenced, identical bills were introduced, one in the Senate by Senator Andrew W. Clarke, of Alexandria, and one in the House by Messrs. Samuel W. Swanson, of Pittsylvania, and Ernest Robertson, of Roanoke County, these bills providing that all chiropractors and naturopaths holding provisional licenses could obtain full licenses without taking the Part I or basic science examination prescribed by the Medical Practice Act. The chiropractors employed Ex-Senator Vivian L. Page of Norfolk and Mr. Charles H. Wilson, Commonwealth's Attorney of Nottoway County and also a former member of the House of Delegates, as legislative counsel, and the naturopaths employed Mr. Harrison Eacho of Richmond in a like capacity. Because of the many legislative matters demanding the attention of its chairman the Committee on Legislation engaged the services of Mr. William H. Cardwell of Richmond, who ably represented the Society in the handling of all matters pertaining to sectarian legislation. Later in the session Senator Clarke introduced in the Senate a bill which would have given a straight grandfather clause to naturopaths holding provisional licenses. No bills dealing with licensure were proposed by the Medical Society, its efforts being centered on defeating the bills referred to above.

On February 23rd a public hearing was had by the Senate Committee on General Laws, and in an executive session later in the day the Clarke bill was passed by indefinitely. This should have ended the matter, but the patrons of the companion bill in the House would not accept this as a final defeat, and insisted on a public hearing before the Gen-

eral Laws Committee of the House. The hearing was held on February 24th, and a few days later this bill too was defeated. On March 1st, after a short public hearing before the Senate committee, the naturopathic bill was likewise killed. Once more the desperate efforts of organized groups of sectarian healers to obtain licenses to practice in the field of medical care without proving competency in that field was set at nought by the splendid work of the Society in upholding medical standards, and by a determination on the part of a majority of the members of the General Assembly that the health and welfare of our citizens should not be endangered by a group of selfish men bent on obtaining special privileges to which they were in no wise entitled.

The provisional licenses, given these practitioners in 1944 in order that they might have time to prepare for and take the examination given by a special board and thereby qualify for licensed practice, will not expire until December 31, 1949, but the last examination to be offered by this board will be in November, 1948. It is hoped that better counsel will prevail among these men, and that they will at least attempt to pass the elementary examination offered by the special board. If they do not seize this last opportunity they will revert to an unlicensed status on January 1, 1950, and any practice on their part thereafter will be a clear violation of the Medical Practice Act.

Annual Registration of Practitioners

At the request of the State Board of Medical Examiners the Committee on Legislation prepared for submission and Drs. Caudill, Kendig and Hagood introduced in the Senate and piloted through the General Assembly a bill which provides that every certificate to practice any branch of the healing arts shall expire on the thirtieth day of June of each year, but shall be renewed annually by the State Board of Examiners upon application filed by the holder thereof prior to that date accompanied by a renewal fee of one dollar. The original bill provided for a fee of two dollars, but this was reduced to one dollar by the Committee on General Laws of the House of Delegates. On or before September one of each year the board is required to prepare a list or lists of the names and addresses of all persons holding renewal certificates, and to provide for the publication and distribution of the lists or any part thereof as it may deem best. The fees for renewals of certificates are made available to the board for carrying out the purposes of the act. Violations of the provisions of the act are punished by fines.

Because of the late day set for the final adjournment of the General Assembly (March 30th), this act will not become effective until June 29th, while the present certificates terminate as of June 30th. This will doubtless make it necessary for the board to send out the application forms and instructions on or before June 1, 1948, so as to get them back by the time the certificates expire.

The plan of annual registration is working well for the dentists, pharmacists and nurses in Virginia, and for groups of physicians and other professional men in other States. The fee of one dollar may prove inadequate, but if so it can be increased at a later time. Pharmacists now pay two dollars and dentists one dollar each year.

Unlicensed Practitioners In Hospitals

Another bill prepared by the Committee on Legislation at the request of the State Board of Medical Examiners and passed by the General Assembly regulates the practice of unlicensed internes and residents in legally established hospitals. Their practice must be confined to bonafide patients within the hospital, or patients who receive treatment and advice in an organized out-patient department of the hospital to which ambulant patients regularly come for professional services to be rendered under supervision of licensed members of the hospital staff. The unlicensed practitioner must have had the preliminary education required for admission to examinations given by the board of examiners, or must hold a valid license from a State whose standards permit reciprocity with Virginia. Only in emergency conditions may a graduate of a substandard medical school serve as an interne or resident in Virginia. The Board of Examiners may determine the extent and scope of such unlicensed practice whenever this is not fixed by law. After January 1, 1949, no person shall serve as an unlicensed interne or resident in any hospital in Virginia after a period of three years has elapsed from the date his services in that capacity first commenced in the State. This date was fixed so as to give such practitioners an opportunity to take the 1948 examinations offered by the board. Violations of the provisions of the act are made misdemeanors and punished accordingly.

THE REORGANIZATION BILLS

During the session a large number of amendments to the proposed new Code of Virginia were offered to make effective the recommendations of the Commission on Reorganization of State Government, and a number of public hearings were held so as to give those objecting to proposed changes an opportunity to present their views. The committees and sub-committees hearing these matters were very considerate, and despite the limited time at their disposal made every effort to understand the problems created by the proposed changes, and to so modify the reorganization plan as to create as little confusion and trouble as possible. A number of the changes directly affected the medical profession, the important ones being as follows:

Abolishing the State Hospital Board: The amendment would have abolished the State Hospital Board as an independent agency, and would have transferred its powers, duties and functions to the State Department of Welfare and Institutions. A number of outstanding physicians, including Dr. Fisher, President of the Medical Society of Virginia, appeared in opposition to this change, with the result that the plan was abandoned, and the State Hospital Board left intact to go on with its program for better medical and psychiatric care and treatment for those in our mental institutions.

Transferring the Administrative Functions of the Medical Examining Board to a Department of Professional and Occupational Registration: This change would have placed the Medical Examining Board, along with sixteen other boards of various kinds, under a director who would handle all functions of a purely administrative nature, leaving to the board the work of examining and certifying applicants. While the plan has some merit, and has worked fairly well in some other States, there are so many instances where the discretionary powers of the board must be exercised in cases involving both administrative and certifying functions that it seemed unwise to attempt to separate these functions without a very careful study of the whole problem. Furthermore, the office of the board is in Roanoke, while the proposed department would have been in Richmond. Because it was impossible to determine whether or not the Board would be left with any real autonomy under the new plan, its members opposed the change and called upon the Committee on Legislation and its attorney for all possible assistance. The result was that the plan was so changed as to leave the Examining Board as a separate agency, with limited financial and accounting assistance to be rendered by the new Department. If the Department of Registration becomes an efficient agency in the administrative and regulatory field, it may be wise at some future time to have it take over these duties and leave the Medical Examining Board with the sole function of examining and certifying candidates.

Transferring the Medical Examiner System to the Department of State Police: At present the work of the Chief Medical Examiner and the local coroners is under the supervision and control of a Commission on Post-Mortem Examinations made up of the Attorney-General, the State Health Commissioner, the Superintendent of State Police, and the Deans of the two State Medical Schools. The Commission on Reorganization had reached the conclusion that independent State agencies of this general nature should be placed within one of the principal departments of the State, and had recommended that the Commission on Post-Mortem Examinations be abolished and that all of its powers, duties and functions be transferred to and exercised by the Superintendent of State Police. This would have given the Superintendent the power to appoint and supervise the work of the Chief Medical Examiner and his staff and to appoint all regional pathologists and local coroners. In other words, a statewide system established to make medical and technical investigations into the cause of suspicious deaths would have been placed in the hands of a layman who, regardless of his efficiency in police and traffic work, could not be qualified for the new duties imposed upon him. The danger to the newly established Examiner System was quickly recognized by Dr. Breyfogle, the Chief Medical Examiner, and by Dr. Wyndham B. Blanton, the able Chairman of the Committee on Coroners which worked so hard and so successfully in having the new system adopted in 1946. The President of the Medical Society promptly authorized Dr. Blanton to reconstitute his old committee, and work was started at once to block the proposed change. It soon became apparent that the system would have to be placed under some State Department, and those most vitally interested were of the opinion that the medical and technical functions of the system could be exercised under the Depart-

ment of Health as well or better than under any other State Department. In order to accomplish this transfer appropriate amendments were prepared by counsel for the Committee on Legislation, and after some strenuous work on the part of Dr. Blanton and others, these amendments were adopted by the General Assembly. After July 1, 1948, this agency will be under the State Board of Health, but there should be little change in its organization and in its methods and practices. The Virginia Medical Examiner statute has become a model for other States, and a number of these are now adapting it to their local needs. Any action which might prevent its successful operation at this stage would be tragic and inexcusable.

State License Tax On Physicians

The State license tax on physicians was reimposed at this session, the act providing that "every practicing medical doctor" shall obtain a revenue license. A license for any county or city shall authorize practice throughout the Commonwealth. During the first five years of practice and for any year following a year in which receipts are less than $500.00, the tax shall be fifteen dollars per year. After five years of practice the tax shall be twenty-five dollars per year. No tax is imposed on any medical doctor who has practiced medicine regularly since January 1, 1909. The act is made applicable for the license year 1949 and subsequent years. The words "medical doctor" are not defined in the act, and the construction in favor of the taxpayer given taxing statutes may make it difficult to determine what practitioners are included in the provisions of the act.

Other Legislation

There were a number of other bills which affect the profession in one way or another. A bill prepared by the Committee on Legislation for the Medical Examining Board and enacted into law requires the State Board of Health to report certain revocations of hospital licenses to the Examining Board for any action that may be indicated. A new program for the treatment of alcoholics under the supervision of the State Board of Health will be made effective through an appropriation of $200,000, and under this program about twelve hundred patients can be handled each year. Other legislation relating to public health, hospitals, health centers, and mental institutions was enacted, and some prior legislation was continued and strengthened by appropriations for the new biennium. These matters have been discussed in the newspapers and will not be considered here.

A bare recital of the above matters gives some indication of the volume of work imposed upon the Committee on Legislation at the session just ended, and particularly upon its versatile Chairman, Dr. W. C. Caudill, member of the Senate from the 19th District. Without the splendid assistance rendered by the President of the Society and the Council, and particularly by Mr. Henry Johnson, Director of Public Relations, the results might well have been quite different. Dr. W. Dennis Kendig, of Kenbridge, Senator from the 9th Senatorial District, gave unsparingly of his time and strength in furthering measures sponsored by the profession, and his untimely death at Farmville, Virginia, on March 16th, saddened his colleagues in the General Assembly and will mean a distinct loss to the cause of public health and welfare.

CONTRIBUTIONS OF THE 1948 GENERAL ASSEMBLY IN THE FIELD OF HEALTH

L. J. ROPER, M.D.,
State Health Commissioner
Richmond, Virginia.

The 1948 Session of the General Assembly of the Commonwealth of Virginia made an outstanding contribution toward improving the health standards of the citizens of the State. The members of the Assembly were ever mindful of the health problems in the State and passed many constructive bills and made generous appropriations to alleviate or remedy these existing conditions.

Among the most constructive and far reaching bills passed in the field of health were those dealing with the improvement of sanitary conditions in hotels, restaurants, service stations and trailer camps. A summary of these four bills is a follows:

1. To protect the health of transient guests, a bill was passed which applies to hotels, tourist camps, tourist courts and tourist homes. These establishments will be required to maintain a safe water supply and an adequate waste disposal, and to meet other sanitary standards. This law replaces the present law which applies to hotels only and which is inadequate.
2. Eating and drinking establishments are required by a new law to meet recognized standards of cleanliness regarding proper washing, rinsing and sterilization of eating and drinking utensils. Although the State Health Department at the present time is charged with the responsibility of supervising and inspecting restaurants, there has been no standard established by law.
3. Service stations located on the principal highways of the State are required to maintain standards of reasonable cleanliness, approved toilet facilities, and an approved water supply. This will protect Virginia's citizens as well as the tourist trade which we enjoy.
4. Facilities at trailer camps will be greatly improved by a new law which requires trailers to be spaced orderly when in camp. Safe sewage disposal, garbage disposal and a safe water supply protected against surface pollution must be maintained.

The members of the Assembly, recognizing the seriousness of the increasing problem of alcoholism in the State, passed a bill dealing with a study of the subject, and the treatment and rehabilitation of persons addicted to the excessive use of alcoholic beverages. This bill provides that a Division of Alcoholic Studies and Rehabilitation be created in the Department of Health which is to be given the responsibility of administering this program. Under the law the Medical College of Virginia is authorized to establish, maintain and operate hospital and clinic facilities for study, treatment, and rehabilitation of alcoholics. The sum of $100,000 per annum was appropriated to carry out the purposes of this Act. Thus Virginia is beginning to realize that the clinic and not the local jail is the real solution to the alcoholic's problem.

Realizing the acute need for more doctors and nurses in the State and attempting to encourage more young people to enter these professions, the law concerning medical scholarships was expanded, and scholarships were established for nursing training. Under the bill dealing with medical scholarships, the Medical College of Virginia and the University of Virginia were authorized to establish ten annual medical scholarships each—these scholarships to be worth $1,000 each.

The bill relative to nursing training authorizes the Medical College of Virginia and the University of Virginia to establish fifteen $100 annual nursing scholarships each.

Another progressive step taken by the General Assembly in the field of health was the revision of certain sections of the Vital Statistics Code. According to this revision, foundling certificates will be issued, stillbirth certificates will be given and coroners will be required to sign death certificates relative to all cases investigated by them.

In addition to the legislation listed above, adequate sums were provided by the Assembly to carry on the existing activities of the State Health Department on a progressive and increasing basis, and

the following notable increases for new activities were appropriated:

1. Provided for $25,000 per annum for streptomycin for use on selected cases of tuberculosis.

2. Increased the fund for surgical treatment of tuberculosis $10,000 per annum.

3. Increased State aid for local municipal tuberculosis sanatoria $105,795 per annum. This means that the State Department of Health will be able to provide for 101 beds in local municipal tuberculosis sanatoria for State patients.

4. Provided $25,000 per annum for free biologics.

5. In addition to providing for administration of Hospital Survey and Construction, the sum of $2,500,000 ($1,000,000, of which is conditional) was appropriated to aid counties, cities, towns, and other agencies in the construction of local hospitals and health centers.

6. Provided some funds for support of "rapid treatment" of syphilitics.

7. Provided a reasonable sum for the inspection and licensing of hospitals and nursing homes.

8. Provided for the establishment of increased local health services.

9. Provided for increased bed capacity from 370 to 500 at Blue Ridge Sanatorium (all buildings to be of the latest modern hospital construction and to cost $1,887,128.)

10. Provided for increased bed capacity from 400 to 500 at Catawba Sanatorium, (all buildings to be of the latest modern hospital construction and to cost $2,059,609.)

11. Provided for increased bed capacity from 269 to 320 at Piedmont Sanatorium, (all buildings to be of the latest modern hospital construction at a cost of $1,995,488.)

12. Provided a conditional appropriation of $2,500,000 for the construction of a new 300 bed tuberculosis sanatorium.

Grant Made For Alcoholism Study.

Announcement has been made by The Research Council on Problems of Alcohol of a grant in the amount of $20,000 to New York University College of Medicine for a study on biochemical and endocrinological factors in alcoholism. This study is to be undertaken in the Department of Medicine under the direction of Dr. James J. Smith.

This grant to N. Y. U. College of Medicine is the second made this spring by The Research Council on Problems of Alcohol to special investigations in the field of alcoholism. A grant of $30,000 was made to Cornell University Medical College.

New Books.

Some recent additions to the Library of the Medical College of Virginia, Richmond, available to our readers under usual library rules are:

Boyd—Fundamentals of immunology. 2d ed.
Clendening and Hashinger—Methods of diagnosis.
Darlington—The handling of chromosomes.
Doggert—Diseases of children's eyes.
English and Pearson—Emotional problems of living.
Follis—The pathology of nutritional disease.
Gray—Attorney's textbook of medicine. 2d ed.
Hartwell—Practical psychiatry and mental hygiene.
Horney—Are you considering psychoanalysis?
London—Libido and delusion.
Ludwig—Dr. Freud. An analysis and a warning.
Muller and Dawes—Introduction to medical science.
Novak—Textbook of gynecology. 3rd ed.
Recent progress in hormone research. Vol. II.
Selinger—Office treatment of the eye.
Selye—Textbook of endocrinology.
Teagarden—Child psychology for professional workers.
Vitamines and hormones. Vol. 5.

THE MANAGEMENT OF EARLY SYPHILIS*

DUDLEY C. SMITH, M. D.,
and
ROBERT C. THOMPSON, M.D.,
Charlottesville, Virginia.

Syphilis is one of the major problems facing the medical profession and the citizenry of the world. You are clearly aware of the high incidence of syphilis, the great variety of its clinical manifestations and the seriousness of its effect on the mind, body, and offspring. Early syphilis is a preventable and curable infection. The discovery or location of all cases in the earliest stage by widespread use of serologic tests and intensive, tactful, contact tracing, followed by the use of rapidly acting treponemicidal drugs, will decrease the spread of this condition. Adequate therapy, using "multiple attack" (pencillin, arsenic, bismuth, etc.) for a sufficiently long period of time, permanently cures this malady.

In spite of the effect of this condition on past history, most all of our scientific knowledge about it has been discovered during the 20th century. The milestones in our present day knowledge of this disease are as follows:

(1) The discovery of the specific cause (Spirochaeta pallida) by Schaudinn in 1905.

(2) The application of the theories of immunological reactions to the development of diagnostic tests on the blood and body fluids by Wassermann in 1906.

(3) The systematic and laborious work of Ehrlich to find an effective curative substance in 1910. This resulted in a revolutionary change in all specific therapeutic approach in medicine.

(4) The addition of the resistance building metal, bismuth, by Levaditi, in 1921.

(5) The corollation and evaluation of treatment method by the "cooperative clinical group" and others during the third and fourth decades.

(6) The emphasis on the importance and suggestive technique of the application of common sense public health procedures in finding source cases and infected contacts of syphilitics by the writer and associates in 1933[1,2,3]. This made an early diagnosis possible, prevented further transmission, and increased the possibility of cure.

(7) The leadership in the advancement of public education in this field during the last twenty years by Parran.

(8) The promotion of rapid treatment schedules, thus shortening treatment time and decreasing of the high delinquency rate, by Chargin and associates in 1936.

(9) The introduction of penicillin by Mahoney and co-workers in 1943.

These nine major forward steps in the knowledge about syphilis have been accompanied by many other significant advances in this field. We are now in a position, from the standpoints of scientific knowledge and sociological opinion, that this condition which causes so much economic waste, morbidity, mortality and mental agony can be stamped out, if the medical profession will apply this information universally.

This is a discussion limited primarily to early syphilis. The term early, however, is misleading because a patient with a chancre has had a septicemia with Spirochaeta pallida for from two to six weeks and a case of secondaries for a longer period of time. Acquired early syphilis rarely kills and causes little morbidity, but its cure prevents the later serious stages of this disease in all parts of the human body. An illustration of the potentialities resulting from the eradication of syphilis would be a decrease of 15% in cardiovascular disease. Definite headway was being made in this country before the last world war in decreasing the incidence of syphilis. This downward trend has been disrupted, as it usually is, by wartime conditions.

There are a number of reasons for the limited application of the scientific knowledge available against this illness. Sexual transmission with its moral aspects has been an almost insurmountable difficulty, but actually transmission by this type

*From the Department of Dermatology and Syphilology, University of Virginia Hospital, Charlottesville, Virginia.

Read at the 100th Meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

of close contact makes the source of infection easier to determine. Another handicap has been the deficiencies in undergraduate and graduate teaching in this field of clinical public health medicine. An attitude of aloofness on the part of many physicians and specialists along with the lack of knowledge and interest toward this condition has resulted in many cases going undiagnosed.

The epidemiology of a disease includes a study of all the factors having to do with its transmission and of all the means available for preventing it being conveyed to others. This is a well understood and practical field in present-day medicine and, if the physicians in the United States would do their full share in regard to syphilis, it would help to decrease the trend toward governmental medicine. This is a real challenge. It is the responsibility of the medical profession to detect these persons with syphilis and administer the sterilizing and curative remedies. This is a worthy

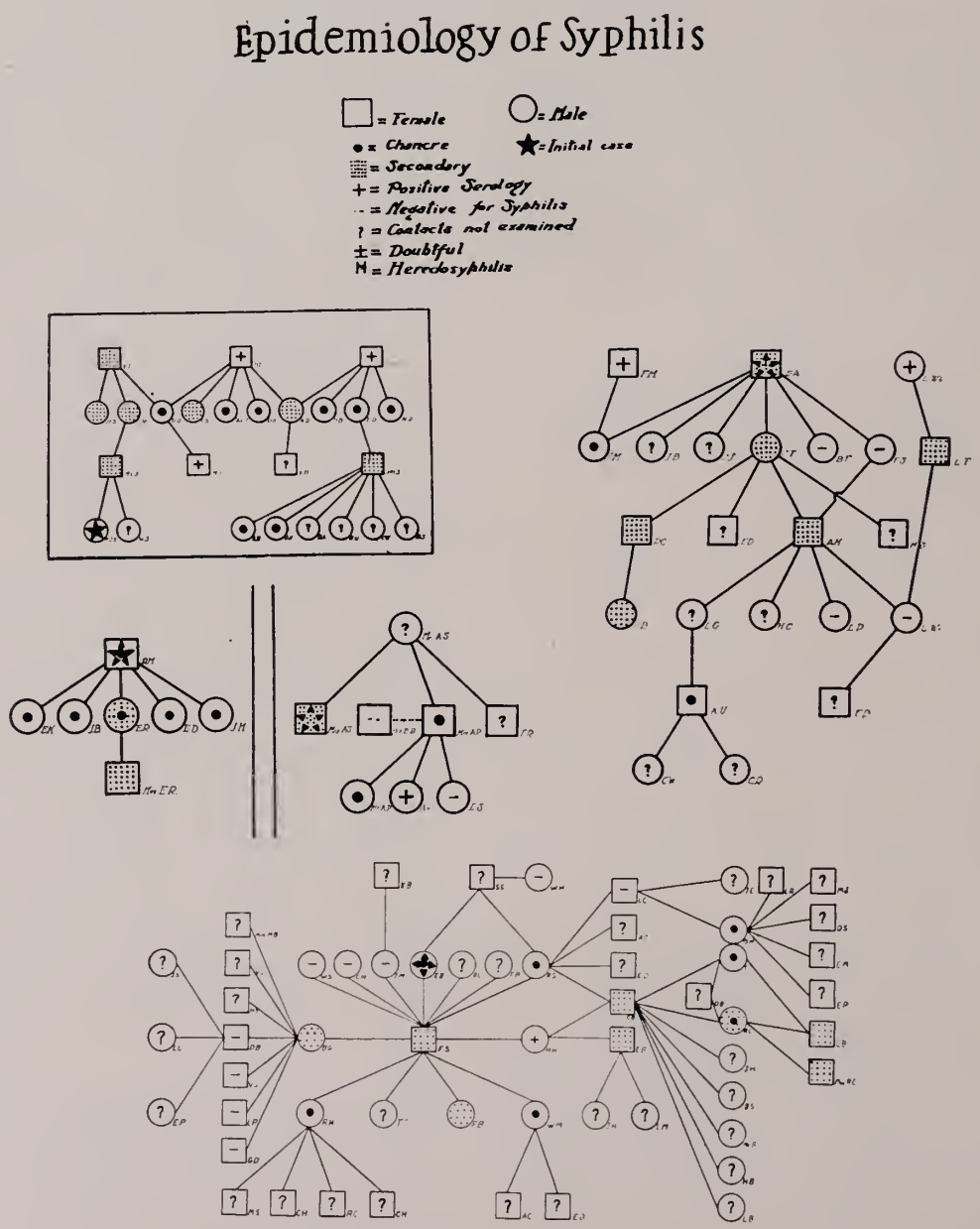


Fig. 1. Illustrations of the effectiveness of contact tracings.

and desirable undertaking, probably the major health problem of the time possible of accomplishment.

If the entire population through one generation should be examined serologically and clinically at intervals for syphilis and every infected person promptly given the minimum standard of modern therapy, the campaign against this malady would be won. No such action is possible. The approach must necessarily be slower, but the pace should and can be accelerated.

Another way of attacking this transmissible infection is by tracing source cases and the follow-up of contacts of syphilitic patients. The principle of this approach is identical with that used in the control of other infections. During the routine history and examination of the patient, the characteristics of the disease are explained. This includes transmission, pathology, complications, standard of treatment and the probable outcome. Language that the individual patient can comprehend is used. The moral aspects are minimized and the medical phases are emphasized. Every effort is made to impress the patient that all information obtained is confidential. Every case of syphilis diagnosed presents an opportunity for discovering other foci of infection.

The contacts of a case of early syphilis should be examined thoroughly clinically and by laboratory tests each week for about six months before being discharged as normal. Darkfield examination of serum from a suspicious lesion may show the specific organism before the serological tests become positive. The patient is referred to the laboratory examiner in most cases. The serum may be obtained directly from the lesion or from an adjacent lymph node. The latter is frequently positive when the former is negative due to antiseptic applications. The deferred darkfield examination can be used when equipment and a trained examiner are not easily available. The serous exudate is collected in capillary tubes. The ends of the tubes are sealed by pressing them into wax or vaseline. This material can then be mailed to a diagnostic laboratory.

Darkfield examination of serum obtained by lymph node puncture is a means of making a diagnosis of syphilis before the appearance of the chancre. This examination should be done in all sex contacts of infectious syphilitic patients.

When relapsing or recurrent lesions appear on the skin or mucous membrane, the danger of transmission to associates is considerable. These painless, frequently unnoticed lesions, teeming with Spirochaeta pallida, account for a large number of accidental or innocent infections. A person with mucous erosions in the mouth can spread a lot of spirochaetes by coughing.

FOLLOW UP AND FOLLOW BACK OF EARLY SYPHILITIC INFECTIONS AND CONTACTS

Infected cases	Exposed Contacts								
	Named	Individuals Represented	No. per Case	Admissions to Clinic				Estimated Infected	
				Total		Cases Infected		Total No.	No. per Case
				No.	%	No.	%		
207	511	421	2.03	171	40.6	126	73.7	316	1.52

Fig 2. Summary of results of examinations of contacts of cases of early syphilis.

There is directly or indirectly involved in the proper management of early syphilis many ramifications in addition to medical knowledge. Sociology, psychology, religion, human relations, youth delinquency, economics, administration, etc., are to be considered along with a knowledge of physiology, immunology, pharmacology, toxicology, pathology, laboratory diagnosis and clinical variations. All these terms and aspects may seem to add up to a very difficult subject, but actually all these features are day to day undertakings of medical men. Most patients are in the age group with few abnormalities and can endure considerable "hammering" if necessary. Average knowledge with tactfulness and energy are the basic requirements for satisfactory treatment of early syphilis.

Early syphilis can be further subdivided into several stages. These are (1) incubation period,

(2) seronegative primary, (3) seropositive primary, (4) secondary, (5) recurrent, and (6) early latent. The diagnosis in all these subdivisions is dependent on laboratory findings rather than clinical characteristics. Clinical evidences (history or presence of lesions) are suspicion arousers. The final diagnosis should never be made on clinical characteristics alone, no matter how nearly the lesion conforms to the "text-book" description. Doubtful laboratory reports, whether a microscopic or a serologic test, should not be considered as definite confirmatory evidence either, but merely an indication for repeating the procedure. Never give a patient local or systemic antisyphilitic treatment before definitely positive laboratory reports confirm the diagnosis.

The interpretation and evaluation of serological tests for syphilis will not be discussed here now in detail. It should be emphasized, though, that doubtful or weakly positive tests are not diagnostic and that all tests should be repeated to rule out technical error. Titered tests give added diagnostic information and are better indications of therapeutic response. Serologic tests should be repeated at monthly intervals for one year after discontinuing treatment. If the tests become and remain negative for a year and there are no clinical evidences of progression or relapse, the patient can be discharged as "cured".

A routine spinal fluid examination should be made during the first few weeks of treatment. If the fluid is abnormal, treatment should be intensified and continued longer. If normal, it need not be repeated unless relapse occurs.

Syphilis is a relapsing disease. There is always a delicate balance between the resistance of the human body and the activity of the organism. The local and systemic reactions against the Spirochaeta pallida protect usually from rapid and serious involvement in human tissues, but this immunity is not complete. The ratio of protective influences varies to some extent with the number and sites of involvement of the invaders. The antagonistic response of the body varies with stages of the infection and with the general basic health of the patient. An extreme example of the lack of proper immunologic response is malignant syphilis. It is the opinion of most authorities that lack of "fight" is more important than an increase in the virulence of the strain of spirochaeta. This points out the importance in the treatment of syphilis of raising the health level of the patient to the highest degree possible. Adequate nutrition, regular rest, removal of focal infection and correction of associated abnormalities is of major importance in curing syphilis. Specific therapy is only an additional, but necessary factor.

Arsenoxide (clorarsen, mapharsen or phenarsen) has replaced the arsphenamines because of its equal effectiveness and much lower toxicity. It should be administered twice a week. Alone, 1200-1400 milligrams cures about 75% early syphilis. The toxicity varies with the time, that is, if given in five days, the reactions are more frequent and severer than if given over a period of several months.

Insoluble bismuth subsalicylate in oil suspension in about 2000 milligram total dosage, when added to arsenic therapy, increases the cure rate about 15%.

Penicillin, on preliminary evidence, is an effective antisyphilitic agent and its toxicity is very low. Its final place in syphilotherapy is not yet determined, nor have the correct time-dosage schedules been ascertained. The most effective factor

Period of Observation	Number of patients who could have been followed	Number that were actually followed		Delinquent	
		No.	%	No.	%
0- 1 Mo.	294	294	100.0	0	00.0
1- 6 Mo.	292	286	97.9	6	2.1
6-12 Mo.	228	214	93.8	14	6.2
12-18 Mo.	163	148	90.7	15	9.3
18-24 Mo.	103	88	85.3	15	14.7
24 Mo. +	61	47	77.0	14	23.0

Fig. No. 3. Patient follow-up performance as of 7-1-47.

Observation Period	Total Patients Observed	Negative		Improved		Clinical Relapse		Sero-Relapse		Total Relapse		Sero-Resistant		Reinfection	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1- 6 Mo.	252	137	54.4	93	36.8	19	7.6	3	1.1	22	8.6				
6-12 Mo.	214	151	70.6	41	19.2	14	6.5	7	3.2	21	9.7			1	00.5
12-18 Mo.	148	121	81.8	12	8.1	7	4.7	4	2.7	11	7.4	3	2.0	1	00.7
18-24 Mo.	81	74	91.4	6	7.4									1	1.2
24 Mo. +	45	42	93.3									3	6.7		

Total failures (Relapse and Seroresistance) = 23.9%

Total with low titer between 12-24 mo. = 7.1%

Total short-time "cures" = 69.0%.

Fig. No. 4. Over-all results with penicillin as of 7-1-47. All patients treated prior to 1-1-47 are included. Treatment with penicillin began 4-1-44.

(F, G, X, etc.) is not yet known. Penicillin K is definitely inferior. There are other antibiotics being used experimentally which may be superior to penicillin in the treatment of syphilis. The unified and centralized investigative studies on this subject sponsored at first by the National Research Council and now by the U. S. Public Health Service will result in a final conclusion being reached sooner than it took in the case of arsphenamine.

Fever therapy has a place in the treatment of early syphilis, particularly the resistant and relapsing cases and those with positive spinal fluids.

The administration of penicillin causes Spirochaeta pallida to disappear from surface lesions quickly (six to eighteen hours), promotes rapid healing of early lesions and there follows a decreasing serologic titer to negative in many cases.

The overall results with penicillin in the University of Virginia Hospital are summarized in Figures 3 and 4. The results are not as good as was hoped for at first. It is probable that some of the commercial penicillin used in these cases was inferior. However, penicillin G has been used since July 1, 1946, and the relapse rate with it is too high. These summaries are of cases treated from March, 1944, to January, 1947.

It has been found that the combination of penicillin and arsenic and bismuth has a higher therapeutic index than either alone. This has been discussed as "synergistic action", but I prefer to think of this result as "additive action". Penicillin will be lethal to most of the spirochaetes in the body; arsenoxide will destroy some of the spirochaetal population resistant to penicillin, and then bismuth also has definite spirochaetal action in addition to its resistance-building property. This illustrates "multiple attack", some organisms being more vulnerable to one agent, and some to another. There are available a number of chemotherapeutic agents in the treatment of this disease. When a case does not respond satisfactorily to the regular routine, other schemes and substances can be employed.

The completely curative non-toxic time-dosage schedule is not now known. On the basis of the characteristics of syphilitic infection in the human and our knowledge of therapy at present, I offer the following schedules as being nearly perfect. These are outlined on the basis of a probable cure-

Penicillin	Aqueous — 80,000 U.—I.M.—q 3 h— 7½ da. = 4,800,000 U. or Oil & wax 600,000 U.—I.M.—daily— 8 da. = 4,800,000 U.
and	
Arsenoxide*	40 mgm.—I. V.—2 x weekly—8 weeks = 640 mgm.
and	
Bi. Subsalicylate*	200 mgm.—I.M.—1 x weekly—8 weeks = 1600 mgm.

*Arsenic and bismuth started on 2nd or 3rd day.

Fig. 5. Treatment Schedule for Seronegative Early Syphilis.

Penicillin	Aqueous — 80,000 U.—I.M.—q 3 h— 9½ da. = 6,000,000 U. or Oil & wax 600,000 U.—I.M.—daily—10 da. = 6,000,000 U.
and	
Arsenoxide	40 mgm.—I.V.—2 x weekly—12 weeks = 960 mgm.
and	
Bi. Subsalicylate	200 mgm.—I.M.—1 x weekly—12 weeks = 2400 mgm.

Fig. 6. Treatment Schedule for Seropositive Early Syphilis.

rate of near 100% and a low order of toxicity. The dangers from arsenical intoxication can be largely controlled by the prompt use of BAL (British Anti-Lewisite).

The time factor in these schedules is relatively short—eight to twelve weeks. The delinquency rate should be much lower than that with older long courses of treatment. Most of the therapy is administered during the first and second weeks. This intensification is at a time when the patient is either hospitalized or is willing to return regularly.

SUMMARY

1. Syphilis is a major problem confronting the medical profession.
2. Scientific knowledge and sociological attitude have developed to the point which makes it possible to wage a successful campaign against this transmissible infection.
3. Examination of sex partners and close associates of early syphilitic patients is an effective method of detecting new cases of syphilis.
4. Penicillin alone does not cure a large percentage of early syphilis, regardless of dosage.
5. The relapse rate with all short rapid treatment schedules is high. The relapsed syphilitic patient is a dangerous one.
6. Therapy should be continued for at least eight to twelve weeks in early syphilis, using penicillin, arsenic and bismuth.

REFERENCES

1. Smith, D. C., and Brumfield, W. A., Jr.: Tracing the Transmission of Syphilis, *J.A.M.A.*, **101**, Dec. 16, 1933.
2. Brumfield, W. A., Jr., and Smith, D. C.: Transmission Sequence of Syphilis, *Amer. Journ. Pub. Health*, **24**, June, 1934.
3. Smith, D. C., Practical Epidemiology of Syphilis, *J.A.M.A.*, **107**, Sept. 5, 1936.
4. Stokes, J. H.: Modern Clinical Syphilology, Third Edition, 1944. W. B. Saunders Co., Philadelphia.
5. Moore, J. E.: The Modern Treatment of Syphilis, Second Edition, 1944. Charles C. Thomas, Pubs., Springfield.
6. Moore, J. E.: Penicillin in Syphilis, Charles C. Thomas, Pubs., Springfield, 1946.
7. Kampmeier, R. H.: Essentials of Syphilology, J. B. Lippincott and Co., Philadelphia, 1944.

DISCUSSION

DR. W. W. S. BUTLER, Roanoke: I think we are fortunate in having a statistical report by Dr. Smith on the treatment of syphilis. There is considerable difference of opinion as to whether it is better to treat these cases with penicillin alone or with penicillin and arsenic. There are several angles to the thing. If each one gave the same percentage of cures, and the penicillin and arsenic cover a period of eighteen months to two years, with a relapse rate of 20 per cent, and the penicillin alone over a period of two weeks gave 80 per cent or 90 per cent or even 95 per cent cure, with no relapses, the point is that in the short (penicillin alone) method you have the advantage of getting the 20 per cent that you would lose—due to their failure to continue treatment all of the eighteen months. So, if possible, penicillin treatment is the method of choice, but I see no reason why you should not use both.

An advantage we in private practice have is that we talk to the patient when he first gets it and we get the names of his contacts. In Roanoke City we have a full-time man, and he follows up any contacts that are reported. My observation is that fewer than 10 per cent of the patients have any idea who gave it to them. But often, if these 10 per cent give a description of the people and it is reported to the central office, there may already be a description of those persons there and they can be run down, whereas an individual can not locate them. So I think it is important to report these cases to the central office, which can also see that the individual gets adequate treatment.

Dr. Smith did not stress the point that if we give these patients inadequate treatment we lower the resistance that nature gives to them. We know that twenty-five per cent of the cases will get well anyhow, but by that inadequate treatment we take away that resistance the disease itself would stimulate the body to build up.

It is essential for the individual physicians to cooperate with the health department, because the health department cannot do it alone.

Q FEVER—A CASE REPORT*

THOMAS J. MCGURL, JR., M.D.
JOHN P. WILLIAMS, M. D.
From the Medical Service, McGuire Veterans Administration Hospital, Richmond, Virginia.

Q Fever is an acute infectious disease first reported in Australia by Derrick[1] in 1937. He described it as an acute febrile illness with a paucity of physical signs diagnosed only by immunity tests or isolation of the causative organism. Since that time, a few isolated cases and several epidemics have occurred, the most recent in California and Illinois. These that have not as yet been reported[16].

The etiological agent, Rickettsia burneti, a filtrable Rickettsia, was first isolated from the blood of some of the Australian cases by Burnet, and by cross agglutination was found to be identical with the organism isolated from the American disease[2,3], and also strains isolated from outbreaks in Italy[4], Greece [5], and Panama[6]. These strains of Rickettsia burneti have been found to cross agglutinate with each other and with no other known Rickettsia including the most recently described, namely, Rickettsia akari, the etiological agent in Rickettsial pox[7].

In epidemiological studies, cattle, bandicoots, and five species of ticks in the United States were found to be infected. Q Fever could be transmitted to laboratory animals[9] by infected ticks but as yet there has been no proven case of transmission of the disease to humans by this vector, though this role has been suspected in isolated cases. It is not believed that the disease can be transmitted directly by humans[15].

The outbreak in cattle workers in Amarillo, Texas suggests that cattle harbor the disease, but in that epidemic the vector was not found[8]. It was suggested that the disease might be contracted by the inhalation of infected dust.

The gross and microscopic pathology is unknown since autopsies were not reported on the few fatal cases[8].

The disease is characterized[12], in most cases, by an acute but sometimes gradual onset of fever, malaise, weakness, and headache, the last symptom being the most striking. After several days of illness, the patient may develop a mild cough which is short-lived and which may be productive of a moderate amount of mucoid sputum which may or may not be blood-tinged. The initial physical examination is usually remarkable because of the paucity of signs, fever in most cases being the only finding. With the development of cough, a few localized fine rales may be heard in the chest. There is no rash or enlargement of the spleen. The temperature in most cases is sustained and may reach 102-105 degrees orally. It is occasionally remittent in type. Respirations are within normal range and the pulse only moderately elevated.

The average febrile course is 7-14 days[10] and is sometimes as long as 24 days[1]. The temperature terminates by a recession lasting 24-48 hours and sequelae are rare. In a few cases, relapses have been reported after 18-67 days[10] and in a few instances pleural effusions and arthralgia developed[11,10]. Two fatalities were reported in the Amarillo outbreak[11], but no autopsies were performed.

The laboratory usually reports a normal urine with an occasional two plus albuminuria, and also a normal white cell count and differential with the development of a relative lymphocytosis during convalescence. Cultures of blood, throat, sputum, and spinal fluid have not been significant. All serological tests including those for E. typhosa, S. paratyphi, S. schottmuelleri, B. melitensis, tularemia, and proteus 0x 19, 0x2, and 0xK have shown no significant rises in titer[10,12,13]. With the appearance of the rales or before, roentgenograms of the chest usually show a patchy pulmonary infiltration which cannot be differentiated from so-called primary atypical pneumonia.

The diagnosis has been made by isolation of the organism from serum. However it is usually established by the agglutination or complement fixation tests. A fourfold rise in titer between the acute and convalescent stages is said to be diagnostic of Q Fever[10,14].

There is no known specific treatment for the

*Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the authors.

disease. The use of para-aminobenzoic acid has been suggested but not tried[11]. Penicillin and sulfa compounds have had no effect on the course of the disease[10,13]. No one has yet reported the use of streptomycin.

REPORT OF A CASE

W. H., a 36 year old white male veteran, was admitted to the McGuire Veterans Administration Hospital, Richmond, Virginia on May 9, 1947 with a history of fever, chills, malaise, and severe headache of four days' duration. He had been visiting in Weslaco, Texas from February 6, 1947 to April 15, 1947. He was sojourning at the home of a friend and was not exposed to cattle or ticks. He did on one occasion enter the home but not the bedroom of a man who was reputed to be suffering from typhus fever. He was told that typhus had been endemic in Weslaco but to his knowledge, this was the only case which occurred during his visit. He did make several one day trips within a radius of 250 miles and on one occasion crossed the border into Mexico. During his return trip to Roanoke Rapids, N. C., he noticed an itching of his left buttock, but did not investigate it.

On May 1, 1947, he went to bed with an undiagnosed fever of 102 degrees and apparently recovered in three days. During this time, he removed a tick from the itching spot on his buttock. The site of attachment of the tick did not become acutely inflamed and had almost completely disappeared at the time of his admission to the hospital.

On May 5, 1947, the fever returned accompanied by malaise, chills, fever, and severe headache. This state continued intermittently until the time of his hospitalization on May 9, 1947.

Physical examination on admission was negative except for a temperature of 105 degrees, marked toxicity and prostration, pulse 98, respiration 22, and a healing "tick bite" of the left buttock.

The laboratory work was not remarkable. The blood count was within normal limits. Urine showed 15-20 WBC per HPF with rare granular casts and

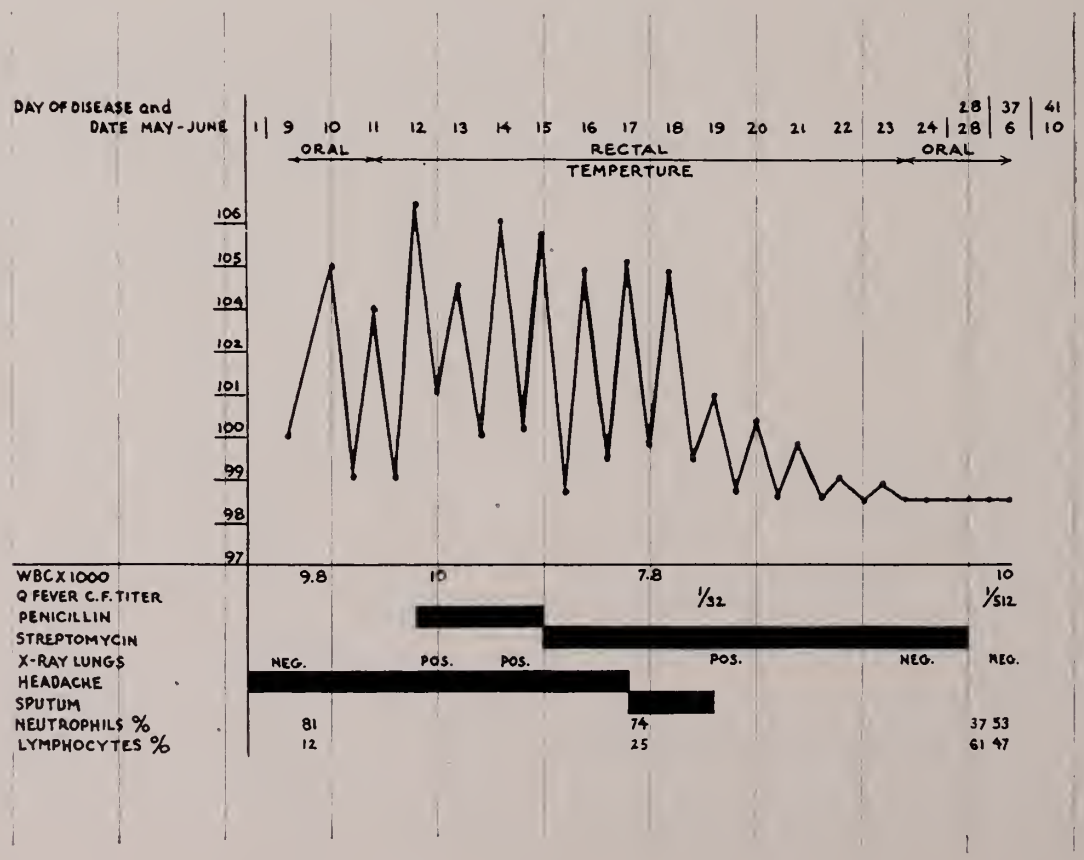


Fig. 1.

RBC. Malaria smears were repeatedly negative. X-ray of the chest was negative. Examination of the feces revealed no ova or parasites, and on culture was negative for pathogenic organisms.

The patient began to vomit shortly after admission and became extremely toxic. Spinal fluid examination on May 15th was negative. Agglutination tests for E. typhosa, S. paratyphi, S. schottmulleri, B. melitensis, and tularemia were negative on May 9, 13, 19, and 24. Heterophil antibody tests were negative on the same dates and Weil Felix reaction was positive 1/40 on May 9, 1/80 on May 13, 1/80 on May 19 and 1/40 on May 24, 1947. Urinalyses were repeatedly negative throughout his stay except for the initial examination and a trace of albumin on two occasions during his febrile period.

X-ray on admission (portable) was negative, but on May 12th the roentgenologist reported an infiltration in the left lung field extending from the fifth rib to the dome of the diaphragm.

No sputum could be obtained from the patient but due to his extremely toxic state, penicillin 40,000 U q.3 h. was started on an empirical basis with the hope of affecting some susceptible pyogenic organism. This was obviously without effect and was discontinued at the end of the third day when streptomycin was started on the chance that his atypical pneumonitis might be due to tularemia not sufficiently advanced to produce agglutinins. One gram in six divided doses was given daily.

On May 17, 1947, the patient began to cough and expectorated very small amounts of blood-tinged sputum which on culture revealed diphtheroids and alpha-streptococci. It was only on this day that a few fine moist rales were heard in the chest. The production of sputum ceased the following day.

On the fourth day of streptomycin, the patient's temperature rose only to 101 degrees and from then on fell rapidly to normal. (Fig. I).

With the drop in temperature, the patient made a rapid clinical recovery. It was on this first day of relatively low temperature that the first blood was drawn for the Q Fever complement fixation test and sent to the National Institute of Health, Washington, D. C. It proved to be positive at a titer of 1/32.

The chest cleared rapidly by x-ray. The patient's only complaint during his convalescence was moderate weakness and a loss of 3-4 lbs. in weight. Hemogram during this period revealed a lymphocytosis which began to revert to normal by the time of discharge on the 32nd hospital day. A titer of 1/512 was obtained by the National Institute of Health on the Q Fever complement fixation test on the 28th day of the disease. This they considered positively diagnostic.

COMMENT

This case of Q Fever, in most respects, is typical of those previously reported in that the patient had lived at least near an endemic area, his presenting symptoms were fever and headache, and he presented very few differentiating physical signs. There was no rash, splenomegaly or lymphadenopathy. In addition to the fever, the only significant findings were in the chest. Rales were heard on one day and the patient had a productive cough for about one and one-half days. The chest x-ray findings were those of a primary atypical pneumonia. The diagnosis was established by a sixteen fold rise in titer in the complement fixation test.

The normal blood picture throughout the disease with a relative lymphocytosis during convalescence is typical.

The fact that the disease, in this case, was associated with a tick bite is of interest inasmuch as the other cases reported from Texas had no such association. Ticks were not found on the suspected cattle in the Amarillo outbreak.

Little can be said about the epidemiology at present because of the varied circumstances under which several of the epidemics have occurred. Ticks have been associated with none of the epidemics but only with isolated cases. In the Fort Bragg laboratory outbreak, it was concluded that the disease was probably contracted by airborne droplets. The Commission on Acute Respiratory Diseases at Fort Bragg did, however, transmit the disease to animals by contamination of scarified skin and since it has been isolated from ticks gathered from several parts of the United States, it might be interesting to speculate that ticks or some arthropod vector may be involved. One can speculate to this extent because several epidemics have been associated with cattle or at least with the outdoor life as was true of some troops in Italy who were billeted in farming communities. One of us (J.P.W.) remembers vividly observing the work of the Allied Typhus Commission in Africa. Here were collected brushings from the hair of laboratory animals on

which fleas had fed. These brushings contained a high concentration of flea feces which were highly contaminated with Rickettsia prowazeki. The brushings were subsequently shipped to the United States for culture from which typhus vaccine was prepared.

It is, in the same manner, reasonable to suspect a similar process in the production of Q Fever. Some arthropod vector, tick or otherwise, may be depositing its contaminated feces either directly on human skin or in the air or on other animals.

This is also the first case of Q Fever in which streptomycin has been used. The efficacy of the use of this antibiotic, in our case, is in doubt inasmuch as in most cases, the temperature falls to normal in the second or third week of the disease without specific therapy.

It is unfortunate that as yet there is no means available to make positive diagnoses early in the disease. Hence, one cannot apply specific therapy early in the isolated case. However, it would be of interest to see streptomycin used in epidemics of Q Fever in which a provisional diagnosis can be made early in the disease.

SUMMARY

1. An isolated, typical case of Q Fever is presented.

2. The disease was most probably contracted in Texas.

3. The disease, in this case, was definitely associated with a tick bite. The authors speculate as to its possible importance as a vector in Q Fever.

4. The possibility of dust-borne epidemics is discussed in the light of the known method of obtaining the African strain of the typhus Rickettsia.

5. This case was treated with streptomycin, the efficacy of which is in doubt. It is suggested that its therapeutic value be investigated under epidemic conditions when early clinical diagnosis is possible.

We are indebted to Dr. Robert J. Huebner of the Division of Infectious Diseases, National Institute of Health, for his helpful suggestions and comments in the preparation of our manuscript.

BIBLIOGRAPHY

1. Derrick, F. H.: Q Fever a New Fever Entity. *M. J. Australia* **2**:281-99, 1937.
2. Dyer, R. E.: Similarity of Australian Q Fever and a Disease Caused by an Infectious Agent Isolated from Ticks in Montana. *Public Health Reports* **54**:1229, 1939.
3. Burnet, F. M., and Freeman, M.: A Comparative Study of Rickettsial Strains from an Infection of Ticks in Montana and from Q Fever. *M. J. Australia* **2**:887, 1939.
4. Robbins, F. C.; Rustigan, R.; Smyder, M. J.; and Smadel, J. E.: Q Fever in the Mediterranean Area; Report of Its Occurrence in Allied Troops. III The Etiological Agent. *Am. J. Hyg.* **44**:51-64, 1946.
5. The Commission on Acute Respiratory Diseases, Fort Bragg, N. C. Identification and Characteristics of the Balkan Grippe Strain of Rickettsia Burneti. *Am. J. Hyg.* **44**:110-123, 1946.
6. Cheney, G., and Geib, W. A.: The Identification of Q Fever in Panama. *Am. J. Hyg.* **44**:158-172, 1946.
7. Huebner, R. J., Stamps, Peggy, and Armstrong, Charles: Rickettsial Pox—A Newly Recognized Rickettsial Disease Isolation of the Etiological Agent. *Public Health Reports* **61**:1605-1614, 1946.
8. Topping, N. H., Shepard, C. S., and Irons, J. V.: Q Fever in the United States. *J.A.M.A.* **133**:813-815, 1947.
9. Kohls, G. M.: Vectors of Rickettsial Diseases. *Ann. Int. Med.* **26**:713, 1947.
10. The Commission on Acute Respiratory Diseases, Fort Bragg, N. C. A Laboratory Outbreak of Q Fever Caused by the Balkan Grippe Strain of Rickettsia Burneti. *Am. J. Hyg.* **44**:123-157, 1946.
11. Irons, J. V., and Hooper, J. M.: Q Fever in the United States. *J.A.M.A.* **133**:815-818, 1947.
12. Robbins, F. C., and Ragan, C. A.: Q Fever in the Mediterranean Area; Report of Its Occurrence in Allied Troops: I. Clinical Features of the Disease. *Am. J. Hyg.* **44**:6-23, 1946.
13. Hormbrook, J. W., and Nelson, K. R.: An Institutional Outbreak of Pneumonitis. *Public Health Reports* **55**:1936-1944, 1940.
14. Irons, J. V., Murphy, J. N., and Wolfe, D.: Q Fever in the United States. *J.A.M.A.* **133**:819-820, 1947.
15. Dyer, R. E., Topping, N. H., and Bengtson, I. A.: An Institutional Outbreak of Pneumonitis. *Public Health Reports* **55**:1945-1954, 1940.
16. Personal Communication with Dr. Robert J. Huebner, S. A., U.S.P.H.S., Surgeon, Division of Infectious Diseases, National Institute of Health.

TREATMENT OF PHLEBITIS AND ITS COMPLICATIONS*

I. A. BIGGER, M.D.,
Richmond, Virginia.

I will discuss phlebitis primarily as a complication of surgery, but, as you know, phlebitis often complicates medical conditions, childbirth, and almost any other condition which requires prolonged immobilization.

There are a number of factors which enter into the production of phlebitis. I think unquestionably climate has some influence on the incidence of phlebitis, for phlebitis is more frequent in the colder climates than in the warmer ones; according to Ochsner's figures the incidence is about twice as great in New England as in New Orleans.

I am going to discuss this problem from two points of view, one a non-inflammatory lesion, which has been described by Ochsner as phlebothrombosis and is the condition which we most fear in surgical patients and in other patients who have been immobilized for a considerable period of time. The danger of massive pulmonary embolism is much greater in so-called phlebothrombosis than in the inflammatory type of lesion, thrombophlebitis, in which there is an inflammation in the intima in the region of the clot. Ochsner believes that these two processes are different in origin. He believes that the thrombophlebitis is an inflammatory lesion and that phlebothrombosis is a simple clot within the vein. Homans, who has had much experience with lesions of this type, thinks that phlebothrombosis is the early stage of thrombophlebitis. I do not know which view is correct.

Probably the most important factor in the production of intravascular clotting is venous stasis, which in most cases is the result of immobilization of the patient. Homans states that in routine autopsies approximately 50 per cent of those who have been immobilized in bed will show clot formation in the veins. Intravenous clotting may occur in individuals who are up when other factors become predominant. Another factor more difficult to evaluate is decrease in the clotting time of the blood, or increased tendency toward clotting. There are a number of factors which affect blood clotting time; one factor is tissue trauma. Extensive tissue trauma, whether it be due to accident or to surgery, is apt to eventuate in clot formation, probably due to the absorption of toxic materials from the damaged tissue cells. Thrombophlebitis, in addition to having as its predisposing factors stasis and change in the clotting time, is an inflammatory lesion, and infection probably plays some part in its production.

The diagnosis of simple clot formation in the veins is not easy. In full blown thrombophlebitis, such as was formerly described as phlegmasia alba dolens, the diagnosis is obvious, but in the condition described as phlebothrombosis there are no striking physical findings. There may be little or no pain in the extremity and little or no temperature elevation. However, I am always disturbed when a post-operative patient shows continued slight elevation of temperature day after day without obvious cause. I suspect clot formation in the calf and foot veins. An increase in pulse rate has been stressed as important but I doubt whether an increased pulse rate is significant in connection with the diagnosis of phlebothrombosis. My guess is that an increased pulse rate is more apt to mean there have been small pulmonary emboli. That is not a part of the picture of phlebothrombosis but is really a part of the picture of one of the complications of phlebothrombosis. Tenderness and induration in the calf muscles are significant signs. Homans' sign, the inability to completely dorsiflex the foot and the occurrence of pain when dorsiflexion is attempted, is an important sign, but in my limited experience it is not as significant as the slight induration and tenderness which one finds in the calf muscles.

Treatment: Prophylaxis against clot formation in the veins should be discussed first. The most important prophylactic measure is the avoidance of prolonged bed rest. As you know, in most surgical clinics this is being taken care of by early post-operative ambulation. Many surgeons feel that you should get post-operative patients out of bed the first day when possible, for it is within the first twenty-four to forty-eight hours that clots begin in the calf veins, and in the veins of the feet.

Elevation of the foot of the bed immediately after operation improves venous drainage and thereby

*Read at the Symposium on Therapy, February 18-19, 1947, Medical College of Virginia, Richmond, Virginia.

helps avoid stasis. Leg exercises in those individuals who are not able to be out of bed avoids stasis and helps prevent clot formation. Anticoagulants, such as heparin and dicumarol, are of value but they have definite dangers and should not be used indiscriminately. Heparin is somewhat difficult to use because it has to be given by injection at frequent intervals and is also quite expensive. Dicumarol is administered by mouth, is inexpensive and has many advantages but it has one serious disadvantage. Once the coagulation time is increased by the use of dicumarol it is difficult to reduce. The most effective agents in reducing the coagulation time are fresh blood and the administration of large doses of vitamin K, 72 to 144 mgms.

The avoidance of tissue injury in surgical operations is important in the prevention of intravenous clotting. Prophylactic venous ligation is recommended by Allen. When an elderly individual is to have a major surgical procedure, both femoral veins are ligated before he is subjected to the operation for which he enters the hospital. Anticoagulants are valuable in treating both phlebothrombosis and thrombophlebitis, but such therapy must be carried out under careful control. One must carefully follow the changes in coagulation time in heparin therapy and changes in prothrombin time in dicumarol therapy. When this is done with proper care, I think these drugs are not too dangerous and are of value. Ligation in phlebothrombosis and particularly where embolism has occurred is imperative. The superficial femoral vein should be the one ligated when possible. Ligation of the iliacs and of the inferior vena cava should be reserved for those cases which cannot be otherwise controlled. In thrombophlebitis we give anticoagulants and do lumbar sympathetic novocaine blocks. I think the latter is a very important measure in thrombophlebitis. These cases are ligated only if embolism has occurred.

Specialty Training By Veterans Administration Hospitals.

Under a program just announced by the Veterans Administration, young Virginia physicians who have finished residency training may now complete the requirements for their specialty board examinations through supervised practice as full-time staff members in VA hospitals. Initial salaries range from $4,149 to $7,102 a year.

Kecoughtan VA Center and Roanoke VA Hospital have openings at present, and there are other vacancies at the following hospitals in VA's Richmond Branch area: VA Hospital, Perry Point, Md.; Newton D. Baker VA Center, Martinsburg, W. Va.; VA Hospital, Huntington, W. Va.; VA Hospital, Oteen, N. C.; VA Hospital, Fayetteville, N. C. Their staffs include outstanding consultants in many specialties. These consultants give advice and guidance to the younger doctors working toward board certification in their respective fields.

Doctors wishing more detailed information or those wishing to file applications should communicate with the Branch Medical Director, Veterans Administration, 900 N. Lombardy Street, Richmond 20, Va. Meanwhile, they are welcome to visit any of the hospitals named and consult the manager about opportunities.

To qualify for a position under this program, a physician must have completed three years of residency training in medicine, surgery or neuropsychiatry at an approved institution. These posts have been available heretofore to men finishing courses at VA hospitals but are being offered for the first time to those trained in other institutions.

REPORT ON THE INFESTATION OF INTESTINAL PARASITES THROUGHOUT VIRGINIA

LULA W. GARST, M.D.
and
A. W. BENGTSON,
Catawba Sanatorium, Virginia.

The purpose of this paper is to review a simple laboratory method of examination for the presence of ova of the intestinal parasites commonly found in Virginia.

The method is that of Bass and Johns. It is simple, and the general practitioner will find it practicable and efficient.

The majority of the intestinal worms, except pinworm, either lay eggs or deposit larvae in the intestinal canal. These may be found in the feces. The ova are characteristic of the particular worm which produces them. Eosinophilia is sometimes noted, and in the absence of obvious allergy suggests the presence of intestinal worms. Feces of normal consistency are most suitable for examination.

The technique of Bass and Johns, slightly modified, is as follows: Place a piece of feces, about the size of a soy bean, in the bottom of a 15 c.c. centrifuge tube. Add to the centrifuge tube enough 6% formaldehyde to make it approximately one-half full. Thoroughly emulsify the feces with 6% formaldehyde and mix until thoroughly homogeneous, using two applicators. Now fill the tube with the same solution and again mix. Centrifuge in an electric centrifuge for about eight seconds; in a water-driven centrifuge about twenty. Pour off supernatant fluid. Repeat this washing process four (4) times, thoroughly emulsifying the stool each time. For the last wash use only water. For very concentrated stools, five washings may be necessary to clear the specimen. Total time for washing a stool is five minutes or less.

After the stool has been washed the last time and the supernatant fluid poured off, add about two c.c. water to the sediment, mix thoroughly, pour a fraction of the mixture upon 2″ x 3″ slide, spread evenly and examine, using low power lens. Adjust the light so that objects with little color may be seen; then, starting in one corner, move the slide from side to side by means of the mechanical stage so that the entire slide is covered. The care with which the specimen is studied, of course, increases the number of positive results.

By this method many of the common parasites may be found and it is, therefore, a good practical method for a general examination.

If the centrifugal method is negative and parasites are still suspected, the saline flotation method should be used as, undoubtedly, some of the parasites of low specific gravity are lost by centrifuging. A slightly higher percentage of hookworm ova may be found by the salt flotation method, which consists simply of emulsifying a piece of feces in saturated salt solution, contacting slide with top of this feces and salt solution mixture, and examining for ova.

The pinworm, the ova of which are deposited at the anus, may be missed at times by an examination of the stool. When this infestation is suspected a special method of collecting the specimen is used.

Diagnosis of pinworm infection[1] is based on finding the female worms around the anus or in the stools, or on recovery of the characteristic eggs on swab examination, and occasionally on fecal examination. Since eggs of the pinworm are not usually deposited in the intestinal tract of the host, fecal examination cannot be relied upon for diagnosis. Use of the swab is the best diagnostic procedure. This swab consists of a glass rod tipped with cellophane and inserted into a perforated rubber stopper fitted into a test tube. The cellophane-covered tip of the swab is stroked firmly, with an outward motion, over the perianal folds and across the anal opening, preferably in the morning immediately after the patient arises. The swab should not be inserted into the anal opening. For microscopical examination for eggs, the cellophane is removed from the rod, mounted on a glass slide in water, or if fecal material is present, in decinormal sodium hydroxide, and surmounted by a coverslip. Occasionally the swab picks up worms

1. Federal Security Agency, U. S. Public Health Service, National Institute of Health, Bethesda, Md.

or remains of worms, as well as the eggs. At least four, and preferably seven swabs, taken on as many days, should be examined before a negative diagnosis is made.

A simplified swab utilizing the sticky surface of Scotch cellulose tape, for picking up pinworm eggs from the perianal skin, has been described by recent investigators. A piece of tape the length of a glass slide is folded over the end of a tongue blade, sticky side out; the tape is pressed down on the perianal skin, removed and mounted directly on a slide for subsequent microscopic examination. This method was reported by C. F. Graham in the January, 1941, number of the *Am. J. Trop. Med.*, and independently by A. H. Jacobs in *J. Pediatrics*, 1942, **21**:497-503. A still simpler method has been described by Peterson and Fahey in *J. Lab. and Clin. Med.*, 1945, **30**:259-261; a glass slide was applied directly to the anus.

Taenia Saginata, beef tapeworm, in which the ova are usually found in the segments, may be searched for more accurately by straining the whole stool through a sieve. However, we find the ova by the general method of examination of Bass and Johns.

Although the greater portion of our patients come from southwest Virginia, it is a fact that every one of the state's one hundred counties are represented by the patients treated here. Therefore, it cannot be properly assumed that these infestations are more prevalent in any one section of the state than the others.

The following table indicates the percentage of positive intestinal parasites examinations found in all patients admitted to Catawba Sanatorium in the period July 1, 1935—April 1, 1947.

Following treatment with anthelmintic, the percentage of positive examinations has been 58.82 per cent for the last two years. This seems to justify the technique used, since it is the routine recovery of ova after treatment.

We have used this method, i.e., the modified Bass and Johns' technique, exclusively in our laboratory over a period of many years, and the percentages set forth in this article indicate its efficiency.

Work done at Catawba Sanatorium, Virginia.

Year	Positive Intestinal Parasites	Ascaris Lumbricoides Round worm	Necator Americanus Hook-worm	Trichuris Trichiura Whip-worm	Hymenolepis Nana Dwarf Tapeworm	Oxyuris Vermicularis Pin-worm	Oxyuris Incognito	Taenia Saginata Common Tapeworm	Strongyloides Stercoralis	Number of double and triple infestations
1935	13.67%	37	13	23	3	5	_	_	_	24
1936	15.63%	39	18	22	4	9	_	_	_	22
1937	10.49%	21	10	16	3	7	_	1	_	9
1938	11.04%	33	7	16	2	7	_	_	_	15
1939	12.73%	33	10	21	2	8	_	_	_	13
1940	13.15%	40	12	32	5	5	1	_	_	22
1941	14.23%	44	12	29	3	6	_	_	_	19
1942	13.75%	55	9	22	2	7	_	_	_	18
1943	12.30%	30	2	26	_	6	2	_	_	11
1944	14.72%	31	8	22	2	7	5	_	_	12
1945	14.11%	20	7	21	_	5	3	_	_	11
1946	17.06%	31	7	15	1	9	6	1	1	13
1947	18.94%	23	7	17	4	13	2	_	_	9

From July 1, 1946, to July 1, 1947: 18.94% Positive Intestinal Parasites.

VOCATIONAL REHABILITATION, A RESOURCE FOR PHYSICIANS

ROY M. HOOVER, M.D.,
Roanoke, Virginia.

There have always been two phases of the practice of the medicine—the art and the science. In the history of medicine the balance of emphasis has shifted from one toward the other from time to time. Sometimes the art was emphasized with little thought given to science while at another time the purely scientific point of view was held.

In the early history of medicine in our country the family physician practiced in a wonderful way the art of medicine with but scant help from purely scientific procedures. He gave all the medical services which were given whether obstetrics, psychiatry, internal medicine or surgery. He knew the personal, social, moral and business life of his patients. He was interested not only in his patient's illness but was a family friend and adviser.

After the discovery of anaesthesia and the use of the microscope and x-ray, there was a gradual, then a rapid development of laboratory procedures in medicine along with extensive development of the medical specialities. The result was a tendency to rely more on laboratory tests and other objective data and pay less and less attention to the patient as an individual with his personal surroundings, problems and adjustments.

In more recent years it has become evident that the art and science of medicine are inseparable. Laboratory findings and other technical data are of minor value except as they are evaluated in terms of the patient as a whole and his adjustment in his home, business and society. Recovery from any pathological condition is hindered by uncertainty and discord and hastened by improved adjustment and knowledge of security. Evidence of the increased acceptance of these facts is the present emphasis on the so-called "Psyche-Somatic Medicine".

In order to complete our job of healing and adjustment, we have developed a number of helpful phases of treatment, an important one being physical medicine or, if you please, physiotherapy. This helps to get the patient back into normal function and control. However, we physicians do not have at our command any adequate means of fitting our patients to living and working in what, to them, may be very difficult situations. We can not get training for a man with both legs amputated in some suitable occupation and help in securing him employment. These are two absolute necessities in the treatment of a patient whether the resulting handicap is major or relatively less severe. Fortunately there is a Service of the Department of Education the function of which is to take care of this final stage in fitting a patient to a useful place in society and assisting him to fill that place. This agency is the Vocational Rehabilitation Service of the Department of Education.

We as physicians have been so busy with our own work that many of us may know nothing of the Rehabilitation Service, in fact may never have heard of it. If we do hear of it we may think that it is just one more state agency with a certain number of soft jobs and of no particular value to either us or our patients. The fact is, however, that the Rehabilitation staff is composed of a group of workers, trained in the very thing we want for a patient, that is, going over very carefully with him his employment history, his past training, his natural aptitudes, his personal qualifications for a vocation, his occupational handicap which he especially likes to discuss with the physician. In the light of all this data, the Rehabilitation staff worker will work out a plan for adequate training and satisfactory employment which may start as soon as the physician is convinced that the patient's condition will warrant starting training. Not only is this plan made but there is supervision throughout the period of training to be sure that training is adequate and no case is considered closed until satisfactory employment has been secured and the patient adjusted in his job. Even before training the fact of having something definite for the future starts the patient on this phase of his recovery.

The Rehabilitation Service is a part of the State Department of Education and one of the regular educational agencies of the State. It is in no sense a welfare or charitable agency and it is not an

"uplifting" agency. The services of Rehabilitation are free and available to all eligible persons just the same as is elementary and high school education to our children. Any person with a defect which constitutes a vocational handicap whether due to congenital defect, disease or injury, either industrial or non-industrial, who can reasonably be expected by training to materially lessen this handicap is eligible. In any case in which the patient's handicap can be lessened by treatment, surgery, or appliances, the proper treatment is secured. In no case is treatment, surgery, or an appliance paid for by the Service if the patient or his family have funds to take care of such treatment. State funds are never used for medical care or appliances except in cases where, after thorough investigation, no other source is available. Only the training, guidance and placement functions of the Service are free to the public without question of financial condition.

The Rehabilitation Service has a staff of 23 trained workers. These men are not physicians but they are constantly dealing with handicapped persons so that in talking over a case with them as well as in making a written report it can be in the usual technical terms in order to be accurate and does not require couching a medical report in the simple terms necessary for the usual layman. These workers handle an annual case load of about 7200 with almost one thousand cases completed last year. These cases rehabilitated last year earned in their first year after rehabilitation $1,489,500.00, thus relieving themselves and their families of being a non-productive burden on the taxpayers.

The training of cases has been carried on all over the State at any place where satisfactory training can be secured at a *reasonable* cost. The Rehabilitation Service consistently takes the position that the taxpayers' money should be made to benefit the maximum number of handicapped persons and never squandered. Training is usually given in about two hundred trades and vocations but there are no hard fast rules which allow a case to be trained in one vocation but not in another—the only requirement is that it be a suitable, legitimate pursuit.

Last July the work of rehabilitation in Virginia was forwarded immensely by the acquisition by the State and Augusta County of the buildings and grounds of the Woodrow Wilson Army Hospital located at Fishersville on Federal Route 250, between Staunton and Waynesboro. This property comprises about four hundred acres with 152 buildings. The portion of the property acquired by the State was for a Rehabilitation Center and comprises 52 buildings. The remainder acquired by the County was for a consolidated high school and a regional vocational school.

The buildings in the Rehabilitation Center are brick faced over hollow tile, all being one single story and connected by covered (and with few exceptions) enclosed corridors. This arrangement is ideal for the handling of patients with severe physical handicaps. There is no problem of stairs and there are numerous ramps for easy access of wheel chair cases to the grounds.

As soon as the property was acquired, remodeling and reconditioning was started. By January 1, 1948 the first Rehabilitation cases were admitted and at present there are 65 cases in residence with training in cosmetology, commercial education, watch repair, cabinet making and upholstering, radio repair and operation, plumbing and heating, carpentry, painting and electrical work. In the near future training for laundry workers, practical nurses, domestic service, hospital attendants, building maintenance mechanics, automobile mechanics, automobile body and fender workers and shoe repairmen will be instituted.

It is planned that the Rehabilitation Center can handle about 600 students with the present buildings. The patients have board and room in the Center and as a result very severely handicapped persons can be handled.

A well equipped department of physical medicine is already in operation under one of the three Physiatrists in the State. By this arrangement a patient can be trained to get maximum usefulness from a crippled member and be getting his vocational training at the same time. The vocational handicap of the patient can be reduced to a minimum.

The third department of service is just getting under way, occupational therapy. The department is under a thoroughly trained therapist who has had quite wide experience. Part of the occupational therapy will be diversional in nature, but other will be therapeutic in cooperation with physical medicine. It is anticipated that much of the oc-

cupational therapy will actually be vocational training especially for the very severely handicapped.

The opportunity for developing a Rehabilitation Center at Woodrow Wilson is unique in America. At no place is there an institution without large capital outlay, yet physically prepared to room and board severely handicapped persons with a minimum of trained help. Thorough physical reconditioning can be carried out, occupational therapy, both diversional and practical, vocational training and if it seems necessary a certain amount of high school class work, all can be done at the same time. The limits are only limits of vision and human ability to carry them out.

The Rehabilitation Service can and will be very glad to take over this very troubling problem which we have had with our patients—that of preparing a handicapped person for a place in society and help him fit into that place rendering all necessary assistance until he is satisfactorily adjusted. The only requirements are that the patients' disability constitutes a vocational handicap and that a plan of training can be worked out offering reasonable assurance of materially reducing the handicap. The earlier cases are referred for rehabilitation, the better the results. If a patient, while still in the hospital, is evidently going to have a vocational handicap it is very helpful to report it to the Rehabilitation Service for plans can be made for him which may greatly assist in his recovery by avoiding uncertainty and worry about future employment. May I suggest that if you have any cases which you think could possibly be rehabilitated, even the severely handicapped, that you either write to the Vocational Rehabilitation Service, State Department of Education, Richmond, or call the field worker in your community. He will be very glad of the opportunity to talk it over with you and render every assistance possible to the patient.

Medical Arts Building.

(NOTE: Dr. Hoover, orthopedic surgeon, is Chairman of the Committee on Rehabilitation of the Medical Society of Virginia and of the Medical Advisory Committee of the Vocational Rehabilitation agency. He serves also as consultant in orthopedics at the Woodrow Wilson Rehabilitation Center, Fishersville, Virginia).

Chipping Glass In Opening Baby's Food.

Glass baby food containers may be dangerous if not opened properly, John D. Steele, Jr., M.D., from the Milwaukee Children's Hospital, warns in the February 21 issue of *The Journal of the American Medical Association.* He reports the cases of two small children who became seriously ill after having swallowed glass chips from such containers which were inadvertently given to them in their food.

In the first case the glass was finally located in the esophagus and removed. In the second case it could not be discovered, and it was concluded that it had passed through the gastrointestinal tract.

In both cases the child's mother had pried the metal lid off a glass container of baby food and given the contents of the jar to the child before noticing that any glass had been chipped off the rim of the container.

"In both instances it is probable that the breakage of the containers was due to the improper exertion of force at one particular point in prying the covers off the vacuum-packed glass containers," Dr. Steele writes. "However, it is probably not generally realized by the consumer that such force should be exerted at more than one point about the rim of the container, and that directions for opening such containers, even though printed in extremely small type, could well be followed if similar accidents are to be avoided. Careful inspection by mothers of the rims of such containers after opening should be a routine procedure.

"The importance of the early recognition of the complications of such accidents by physicians is obvious. Particular attention should be paid to the discovery of residual defects in baby food containers in cases where the ingestion of a foreign body is suspected."

HEMOGLOBIN STUDIES ON ALBEMARLE COUNTY SCHOOL CHILDREN

THOMAS S. ENGLAR, M.D.,*
Director, County-City Health Department,
Charlottesville, Virginia,
RUTH BLAKELY, M.S.,
Director Field Studies, Nutrition Investigations and Services, Florida State Board of Health,
Jacksonville, Florida,
and
WALTER WILKINS, M.D.,
Director Nutrition Investigations and Services, Florida State Board of Health,
Jacksonville, Florida.

Although the hemoglobin test is one of the oldest and most widely used of the "blood chemistry" determinations, it has been little employed on a public health scale as compared with its use in private and hospital practice. Possibly this is due to the fact that, by most methods, hemoglobin determinations have been too slow and cumbersome to warrant testing of large groups by health departments.

In the present study 1363 Albemarle county school children were tested for hemoglobin levels by a quick, accurate, and inexpensive technique which has been previously described by two of us[1,2,3]. By this procedure a team of four workers can do from 200 to 400 hemoglobin tests during the usual school day. The procedure was briefly as follows: Twenty cmm. of whole blood from a free-flowing finger puncture was diluted in a calibrated tube with 0.1 N hydrochloric acid to match the color of a calibrated prismatic glass standard. Standardized artificial transmitted light was used. While the method of reading is somewhat cruder and slower than with certain photoelectric colorimeters, the instrument is not subject to the unpredictable fluctuations that sometimes occur when photoelectric colorimeters are used as portable equipment.

Both the glass standard and the dilution tubes were calibrated by use of the Van Slyke oxygen-capacity method[4] to allow exactly five minutes for development of the acid hematin color. The 20 cmm. pipette was calibrated gravimetrically with mercury. A single pipette was used for all blood measurements, each time being rinsed twice with blood from the finger before the sample to be measured was taken. All readings were made in grams of hemoglobin per 100 cc. of whole blood. Each student saw his own blood tested and received a written report of his hemoglobin level before leaving the room. A total of 1363 students were tested in four "school days".

Since this work was done, we have found that the hemoglobin level of both venous and cutaneous blood may vary quite appreciably during the course of the day with a tendency to be lower in the afternoon than in the morning[2]. This, however, does not affect the *group* results reported here, since the testing on both males and females was done by classes throughout the morning and afternoon periods. It would, however, affect the individual results, since a person whose test was done in the morning would likely have shown a lower level had he been tested in the afternoon, and *vice versa*. Had all the tests been done either in the morning or in the afternoon, the mean results would have been higher or lower accordingly. We believe that whenever the physician desires a greater degree of accuracy than plus or minus one gram in determining the hemoglobin level of a single individual he should have several tests made during the course of the day in order to arrive at an "average level". Otherwise, he might happen to get results on the highest or the lowest level for the day, without knowing which he is getting. This would also be desirable when tests are done before and after therapy for anemia. Otherwise, the "before" and "after" results would not be comparable and might be misleading.

Chart 1 shows a composite column graph of the entire 1363 children, including white and negro, elementary schools and high schools. These included approximately all the students present on the days the tests were done in each of the six

*Now Director of the Prince Georges County Health Department, Hyattsville, Maryland.

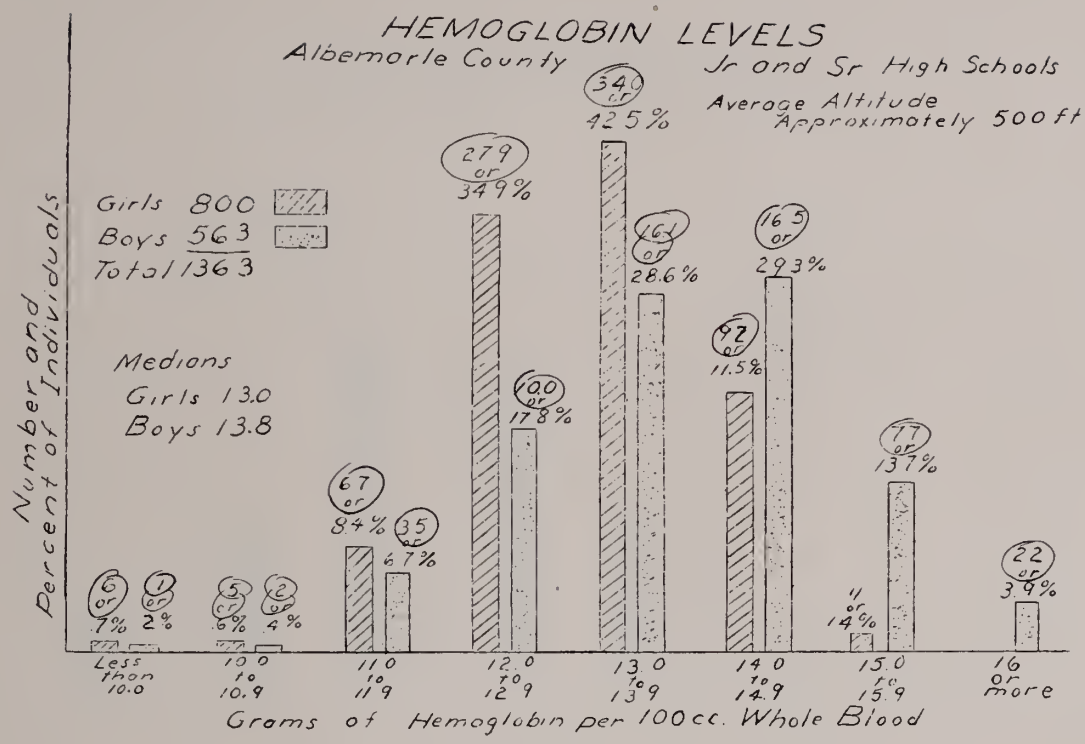


Chart 1

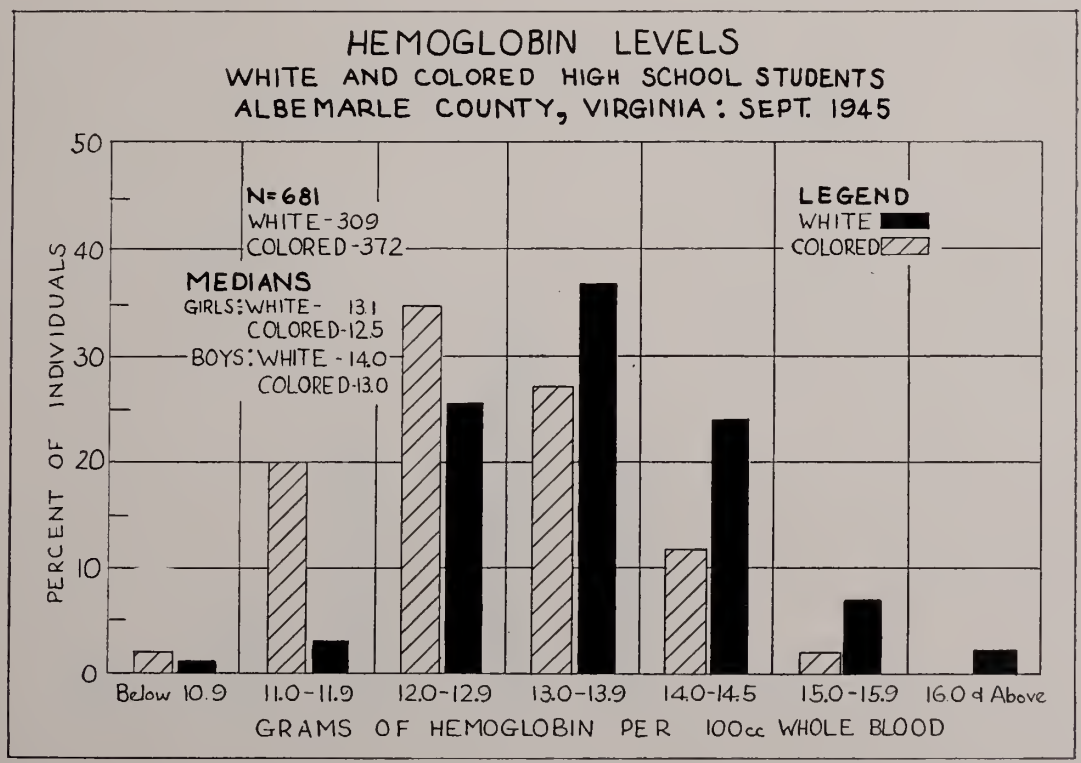


Chart 2

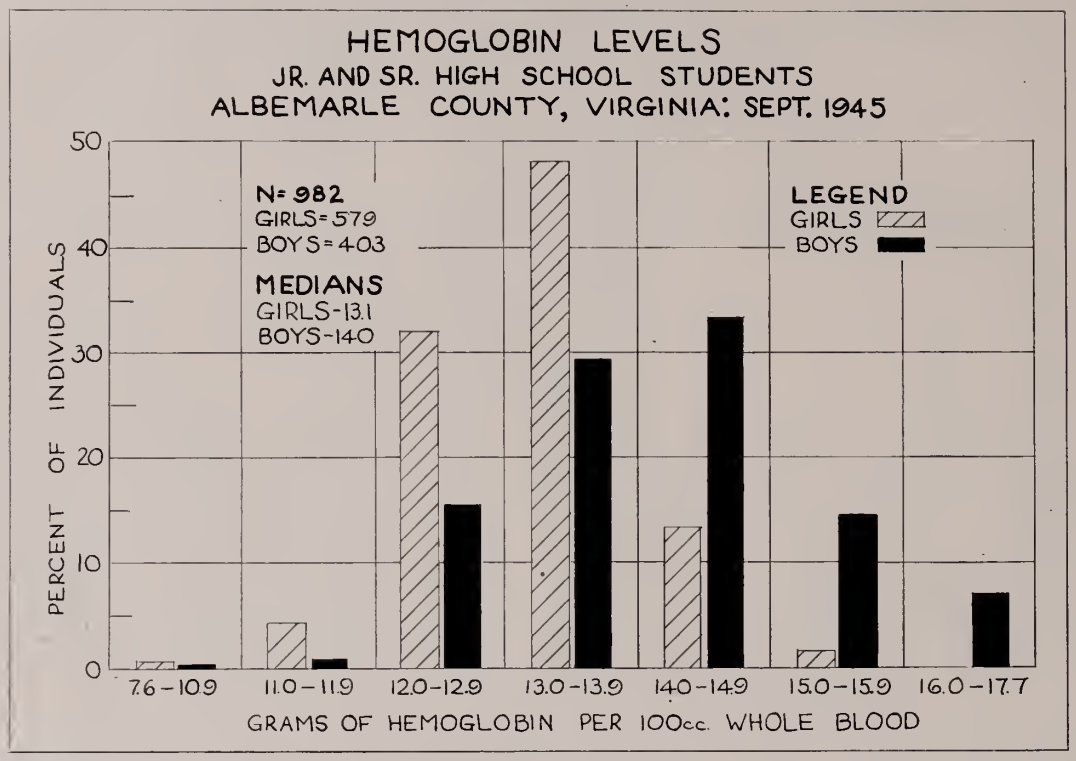


Chart 3

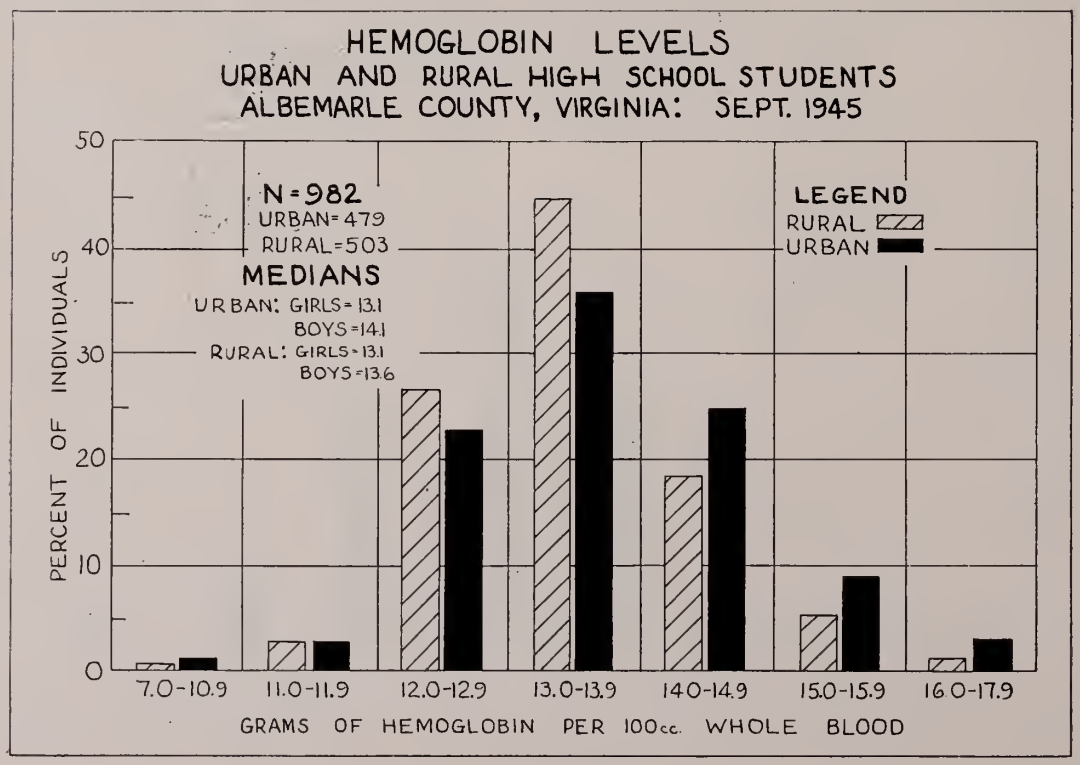


Chart 4

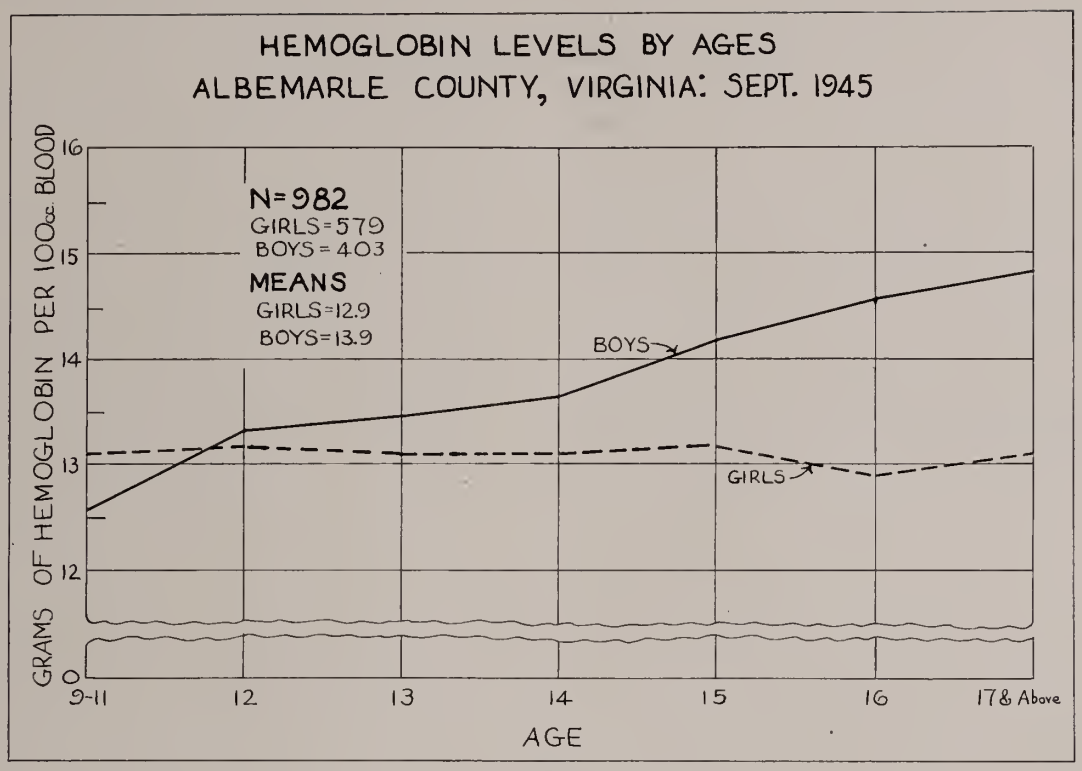


Chart 5

schools. These included 800 girls and 563 boys of ages 9-20. It can be seen that only 1.4 per cent of the girls and 14.6 per cent of the boys had levels of 15.0 grams or higher. Twenty-five per cent of the boys and 44.6 per cent of the girls had levels below 14.0 grams per 100 cc.

Chart 2 shows a comparison of the hemoglobin levels of white and negro high school students. These included 309 white and 372 negro—making a total of 681. It is interesting to note that the averages for the white children were higher than those for the negro children. The medians were

14.0 grams for the white boys
13.0 grams for the negro boys
13.1 grams for the white girls
12.5 grams for the negro girls

Although hookworm tests were not done on these students, it would be difficult to believe that the lower values of the negroes were due to hookworm disease since this disease is far less common among negro children than among white children.

Chart 3 shows a comparison of hemoglobin levels by sexes of 982 white high school students. This group included 403 boys and 579 girls. This difference is in keeping with sex differences found in other studies.

Chart 4 presents a comparison of hemoglobin levels of urban and rural students—being the same group as shown in Chart 3. The median for the urban boys was 0.5 gram higher than that for the rural boys, while the medians for the urban and rural girls were the same.

Chart 5 shows the average hemoglobin levels of the same group by age and sex. From ages 9 to 12, there is little consistent difference in hemoglobin levels of the two sexes, but between 12 and 13 years of age, the boys begin to show a gradual average increase in hemoglobin level, continuing up to age 17. The girls show no average increase in hemoglobin level with increasing age, but rather consistently averaged slightly over 13.0 grams regardless of age. This tendency of hemoglobin levels in boys to increase with age from about 13 to 17 or 18 years has been previously observed by a number of workers (examples 3 and 5). No satisfactory explanation for this sex-age difference has been given.

SUMMARY

Hemoglobin tests were done on 1863 white and negro elementary and high school students. The levels for the white children were higher than those

for the negro children, and in the high school group the average level for boys was approximately a gram higher than that for the girls. The level of urban boys averaged about 0.5 gram higher than that for rural boys; white rural and urban girls averaged about the same. Beginning at about age 13, the boys showed a gradual increase in hemoglobin level with increasing age, while the average level for the high school girls showed no tendency to increase with age.

BIBLIOGRAPHY

1. Wilkins, Walter, and Blakely, Ruth: Rapid Hemoglobin Determinations on School Children, *Journal of School Health,* September, 1946, **XVI**: No. 7, Page 196.
2. Wilkins, Walter, and Blakely, Ruth: Preliminary Observations on Diurnal and Other Variations in Hemoglobin Levels. The Milbank Memorial Fund Quarterly, October, 1946, **XXIV**: No. 4, Page 359.
3. Wilkins, Walter, Blakely, Ruth, and Brunson, Julia: Hemoglobin Levels of Parker High School Students, *Journal of the South Carolina Medical Association,* February, 1947, **XLIII**: No. 2.
4. Peters, J. P., and Van Slyke, D. D.: *Quantitative Clinical Chemistry,* **II**: Methods: Williams and Wilkins, Baltimore, 1932.
5. Wiehl, Dorothy G.: Selecting Cases of Anemia Among Adolescents, *American Journal of Public Health,* October, 1941, **31**: No. 10, Page 1078.

Floral Eponym (62)

LOPHOPHORA LEWINII

LEWIN, LOUIS, 1850-1929.

ACKERKNECHT has given us a delightful sketch of Lewin in his "Not Famous Men, But Great Teachers" (*Bull.Hist.Med.*21:861, 1947). According to Ackerknecht, he could have become head of the greatest pharmacology department in Germany had he consented to become baptized and do what the poet Heine cynically called "taking the entrance ticket to society". Lewin preferred to teach and to do research with his own means in an old tenement house in the center of Berlin. He did an enormous amount of original investigation. He isolated the active principle, an alkaloid which he called Anhalonin, from the Mexican peyote plant. In his latter years, although he had no official position, the courts valued him above all other experts in his chosen field in Germany.

Lophophora is a very distinct genus which was formerly called Anhalonium. It has also been described under Echinocactus. L. Lewinii also goes by the name L. Williamsii, Anhalonium Williamsii, Echinocactus Lewinii and Anhalonium Lewenii. It is a native of Texas and Mexico where it goes by the name "mescal button". It is held in high esteem by several tribes of Indians in the mountains of Mexico on account of its narcotic properties. Its use causes a condition of ideal contentment, and the loss of the sense of time. The Aztecs called the plant teonanacatl, which signifies "sacred mushroom". For centuries investigators sought for a Mexican fungus causing the effects attributed to teonanacatl. It was not until 1915 that W. E. Safford established its true identity.

GASTRIC RESECTION FOR PEPTIC ULCER—A CLINICAL STUDY OF SEVENTY-TWO CASES*

HACK U. STEPHENSON, JR., M.D., F.A.C.S.,
Hines, Illinois.

During the years 1942 through 1945, 384 gastric resections were done at the Veterans Hospital, Hines, Illinois. Two hundred and ninety were performed by members of the general surgical staff and 94 by surgeons on the tumor service. The findings in 72 cases† have been analyzed, giving special attention to postoperative symptoms and complications, early and late, and to the relation of the gastric acidity to various aspects of the disease before and after the resection.

The objectives of a satisfactory operation, as stated by Wangensteen[9], are: "(1) subjective relief of symptoms, (2) ablation of the ulcer diathesis and prevention of recurrent ulcer, (3) accomplishment of these objectives with minimal risk and without compromising the future of the patient." As a result of his experiences he has concluded that the procedure, in order to be satisfactory, must include "(1) extensive gastric (three-fourths) resection, (2) removal of the antrum, (3) removal of the lesser curvature, (4) completion of the operation by the establishment of a gastrojejunal stoma with a short afferent duodenal loop, the anastomosis being made at or just proximal to the ligament of Treitz."

Twelve operative procedures performed on dogs were subjected to experimental scrutiny by Lannin[5]. After complete recovery from the surgery, histamine injections were initiated in an attempt to produce ulcers. The most satisfactory results for protection against ulcer formation were obtained when the procedure described above was employed.

The importance of the acid factor has been repeatedly stressed[6,11]. It has been shown that patients who exhibited free hydrochloric acid postoperatively were among those most prone to develop a recurrent ulcer. A true achlorhydria could be produced in most patients who were operated upon for gastric ulcer, but not as readily in those with duodenal ulcers. Allen and Welch[2] reviewed the records of cases with anastomotic ulcers at the Massachusetts General Hospital and found that one-third of them appeared during the first postoperative year, one-third during the second, and the remaining third from three to eighteen years after operation.

The hazard of leakage from the duodenal stump has been of great concern to the surgeon because it has been the cause of death in most instances in which death resulted directly from the surgery performed. Methods of closing the stump and handling an ulcer in close relation to it have been described[7,8]. Obstruction of the gastrojejunal afferent inlet, although not a frequent complication, can result in tension-rupture of the closed end of the duodenum. Wangensteen has suggested the use of an indwelling tube into the efferent duodenal loop at operation to prevent the obstruction.

In a certain number of patients who have had gastic resections there follows a definite group of symptoms which are related to food ingestion. Most of these are associated with the gastro-intestinal tract (nausea, fullness, vomiting, epigastric pain or distress, and diarrhea). Others are of a vasomotor nature (sweating, giddiness, palpitation, weakness). This has been referred to as the "dumping syndrome"[4], and is believed to be due to rapid emptying of the residual gastric pouch with resultant distention of the jejunum. No doubt distention of the "small stomach" is the cause of the distress at times. Waugh assumed that the syndrome possibly was related to the size of the new stoma and that the employment of Hofmeister modification of the Polya operation might prevent it.

Loss of weight sometimes is associated with the postprandial symptoms. In a small per cent, the patients are unable to gain to their normal or preoperative weights, even though they have no digestive symptoms. Berkman and Heck[3] have had favorable response of patients with dietary difficulties and inanition by gradually inducing them to eat daily three meals which were high in protein and vitamins and ultimately contained 3200 calories. Patients could be made to gain weight without increasing the severity of the postprandial

*Published with the permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or the conclusions drawn by the author.

†Author's cases.

symptoms. By means of intake-excretion studies, Wollaeger *et al*[10] determined the total solids, fats, and nitrogen in the feces of patients who had undergone partial gastrectomy with anastomosis of the entire cut end of the stomach to the jejunum, and compared the results with a group of patients who had not had gastric surgery. In general, there was excessive loss of fat, nitrogen, and total solids in the feces of patients with resections. Although the amount was not large in most instances, it was suggested that, unless the patient should take a diet of sufficient caloric content to compensate for the loss, a decrease in body weight might be expected.

Both hypochromic and hyperchromic anemias have been reported as occasionally following gastric resections. Berkman and Heck cite cases of hypochromic microcytic anemia which failed to respond to the usual treatment but improved after a high protein diet with a caloric value of 3200 calories had produced an increase in weight.

The series reported here consisted entirely of men, 68 white and 4 colored, who were veterans of World War I or II. The youngest individual was 23 years and the oldest was 59 years of age. Eighty-two per cent were 45 years or older.

Thirty-six patients (50 per cent) had coincident diseases. In order of frequency they were: heart condition 9, pulmonary condition (nontubercular) 6, syphilis 4, colon disease 2, liver and gallbladder disease 2, and miscellaneous less significant conditions 13. Most of the patients used tobacco moderately or to excess. Only one was a nonsmoker. On the contrary, a definite history of moderate to excessive use of alcohol was obtained, either from the patient or a relative, in a minority. Nineteen patients (26 per cent) denied drinking alcoholic beverages.

The distribution of the ulcers, as shown in Figure 1, was as follows: duodenal 41, pyloric 10, prepyloric 3, body 11, gastrojejunal (simple) 3, and gastrojejunal (postresectional) 4. Two of the gastric ulcers were malignant.

Twenty-five patients had had previous gastric surgery: closure of perforation 16, gastric resection 4, gastrojejunostomy 3, and pyloroplasty 2.

In most instances there was more than one reason for the operation (Table 1). However, in 50 per cent of the cases surgery was performed primarily because of the chronicity of the ulcer which

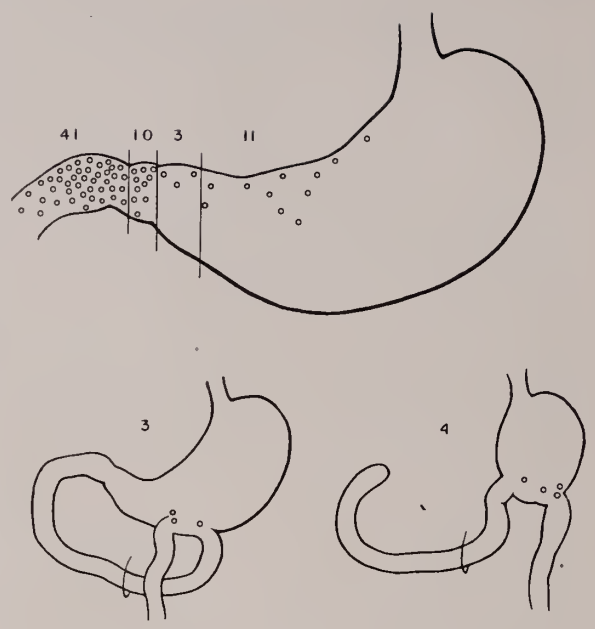


FIG. I LOCATION OF ULCER

had been refractive to medical management. Obstruction was the chief indication in 19 per cent, hemorrhage in 17 per cent, the cancer question in 10 per cent, and perforation in 4 per cent. Three patients had had two perforations, and medical response under hospital management was temporary or only fair, so that possibility of this hazardous complication was considered the chief indication for the resection. Of those who had had previous gastric resections or gastroenterostomies, the primary indications were intractability in 4 and hemorrhage in 3.

TABLE I—INDICATIONS FOR RESECTION

	No. of Patients	
	Primary Reasons	Secondary Indications
Intractability	36	21
Obstruction	14	15
Hemorrhage	12	17
Question of Cancer	7	5
Perforation	3	13
Total	72	

In reviewing the past histories, it was noted that pain had been the most prominent symptom, occurring in 93 per cent of the patients. The pain was complicated by vomiting or hemorrhage in 50 per cent. The 7 per cent without pain had histories of melena.

Pain was a slightly less common complaint at the time of admission to the hospital, being present in 85 per cent, and was associated more often with vomiting or hemorrhage (64 per cent). Vomiting alone was the complaint in 6 per cent, and hemorrhage alone in 10 per cent (Table II).

TABLE II—CHIEF SYMPTOMS BEFORE RESECTION

Symptoms	No. of Patients From History	On Admission
Pain	31	15
Pain and vomiting	22	27
Pain and hematemesis	8	15
Pain and melena	6	4
Vomiting	0	4
Hematemesis	0	5
Melena	5	2
Total	72	72

Fractional gastric analyses were done on 64 patients preoperatively. No relation could be shown between the duration of the ulcer and the amount of free hydrochloric acid. The average of each fractional analysis for free acidity was obtained and the values were found to range between 76 cc. of N/10 HC1 and O. In 58 per cent of the cases the readings were below 30. There was no tendency for the acidity to decrease or increase with chronicity.

No relation between the complication of hemorrhage, obstruction, or perforation and the amount of free acidity could be determined. Charting the acidity against the per cent of cases for each complication, the curves were found to lie in close proximity (Figure 2). Each complication occurred about as often whether there was hyperacidity, normal, or hypoacidity.

The resection consisted of removal of one-half to three-fourths of the stomach in each instance (Figure 3). In most cases during the first part of the series the entire sectioned end of the stomach was anastomosed to the jejunum (22 cases). Later, the Hofmeister modification was employed (50 cases), closing off one-third to one-half of the opening adjacent to the lesser curvature. This seemed to be a more logical procedure since the resulting outlet stoma was of ample size. The anastomosis was made posterior to the transverse colon in all but one patient. In this exception there was a gastric ulcer which penetrated the colon, producing edematous thickening of the mesocolon, which necessitated an antecolic anastomosis. The afferent loop of jejunum in the posterior anastomosis measured from 10 to 15 cms. in length. Whenever possible the ulcer was removed with the gastric specimen. The transected duodenum was closed, leaving the ulcer undisturbed in a few instances. On four occasions the antral mucosa was excised and the stump was closed by utilizing the pyloric wall. In no case was any antral mucosa left behind.

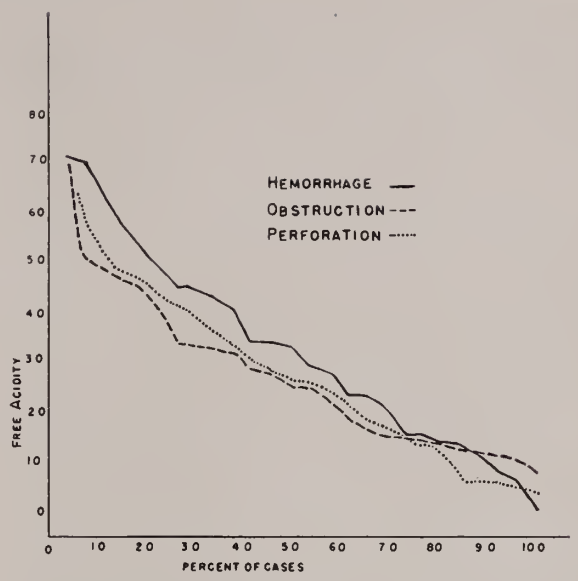


FIG. II COMPLICATION AND AMOUNT OF FREE HCL

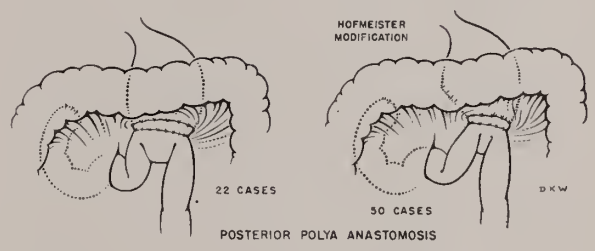


FIG. III TYPE OF RESECTION

An antecolic anastomosis was necessary in one of the cases with Hofmeister modification.

Both pre- and postoperative acidities were determined in 47 cases. In general there was greater reduction of the acidity when high preoperative values were present.

Postoperative fractional gastric analyses, using the histamine test, were obtained on 52 patients. The highest average value for free acid was 22. The ulcers located at the pylorus or in close proximity on the gastric side were separated from the remaining gastric ulcers. The gastrojejunal ulcers were separated into those with and without previous resections. For obtaining a true achlorhydria, re-

sults were best for the gastric (73 per cent) and poorest for postresectional group (0 per cent) (Table III).

TABLE III—POSTOPERATIVE ACHLORHYDRIA

Location of Ulcer	Total No. Cases	Achlorhydria No. Cases	Achlorhydria Per Cent
Gastric*	11	8	73
Pyloric	8	5	63
Duodenal	28	16	57
Gastrojejunal, simple	2	1	50
Gastrojejunal, postresectional	3	0	0

*One with carcinoma.

Thirty-one patients had a degree of anemia on admission to the hospital. In 17 (24 per cent) the anemia was either moderate or severe. In 11 of these, recent hemorrhage was the principal cause. The incidence of more serious postoperative complications occurred one-third as often in these patients as in the group who had no anemia. This cannot be explained readily. Management of each case was similar. Those who were anemic or debilitated physically were perhaps treated more vigorously. Blood transfusions were used when indicated without hesitation, as well as plasma, amino acids, vitamin preparations (B and C), and iron parenterally.

On later admissions to the hospital blood counts were obtained on 24 patients; lapse of time from date of resection ranged from three months to four years. The ratio of hemoglobin and red blood cells was obtained from the preoperative records for comparison. In two-thirds of the cases there was increased saturation of the red blood cells with hemoglobin. Six patients had an anemia which could be accounted for in each instance: terminal pulmonary tuberculosis 1, congestive heart failure 1, carcinomatosis following resection for carcinoma of the stomach 1, gastrointestinal hemorrhage from recurrent ulcer 1, and dietary deficiency 2. One patient's anemia was associated with hypoproteinemia and responded rapidly on dietary management alone. All of the anemias were mild except in the case of hemorrhage.

Postoperative complications were divided into two groups: those which might occur after any major abdominal operation, and those directly related to the gastric resection (Table IV). Convalescence was uneventful in 49 patients (68 per cent). In the first group, 9 had upper respiratory infections, one atelectasis, one pneumonia, one transient cardiac failure, one pulmonary embolism, one deltoid neuritis, and one superficial wound infection. In all except the first 23 cases the sulfonamides were used routinely after surgery and appreciably lessened the incidence of upper respiratory infection. There were no deaths in this group.

Those complications related directly to the resection were: duodenal stump leakage 6, focal pancreatic necrosis (?) 2, hemorrhage 1, and ileus with ascites 1.

TABLE IV—POSTOPERATIVE COMPLICATIONS

Related to Resection	Number	Unrelated to Resection	Number
Duodenal Stump leakage	6	Upper respiratory infection	9
Pancreatic necrosis (?)	2	Pneumonia	1
Hemorrhage	1	Atelectasis	1
Ileus and ascites	1	Myocardial insufficiency	1
		Pulmonary embolism	1
		Deltoid neuritis	1
		Wound infection	1

Leakage from duodenal stump occurred in patients with duodenal ulcers. There were two deaths (one necropsy), occurring on the sixth and eleventh postoperative days respectively. In the surviving four patients the drainage of duodenal contents through the abdominal wound appeared from the fifth to the twenty-first day and persisted from nineteen to thirty-six days. In the last two cases in which the complication occurred, a Penrose drain had been inserted to the duodenal stump at the time of surgery because of the difficulty experienced in securely closing off the duodenum.

Of the two patients thought to have had focal pancreatic necrosis, one had a carcinoma in the prepyloric region which penetrated the pancreas. He expired on the fourth postoperative day. Necropsy showed edema of the pancreas at the site, with fatty necrosis of the lesser omentum. The other patient had a posterior ulcer of the body of the stomach which penetrated the pancreas. The ulcer crater had been cut off the body of the pancreas and an attempt made to cover the defect by approximating the edges of the capsule. The duodenal stump had been securely closed. The patient expired on the sixth postoperative day. Although no postmorten examination was done, the most plausible cause of death seemed to be pancreatic necrosis.

The one postoperative hemorrhage occurred on the fourteenth postoperative day, after an apparently smooth convalescence. During the next three

days he vomited bile-stained fluid occasionally. The subsequent course was uneventful. At the time of the resection the stomach was found to be markedly dilated, with hypertrophy of the mucosa. A chronic shallow ulcer, 1 cm. in diameter, was present at the pylorus on the lesser curvature. Two cm. below the ulcer, the duodenal lumen was narrowed to less than 1 cm. by scar tissue. The right gastric artery and vein were considerably larger than normal. The patient had vomited blood on several occasions prior to the operation.

The cause of the ascites in one patient could not be clearly determined. He had had closure of a perforated ulcer three months prior to the resection and had remained in the hospital. Response to medical management was poor. He complained almost constantly of pain and weakness. His general condition failed to improve satisfactorily, and it was felt that his best chances would be in early operation. At the time of surgery a duodenal ulcer was found with friable adhesions and enlarged inflammatory lymph nodes about it. He vomited bile almost continuously after the third postoperative day. The abdomen became distended and was associated with suppression of urine. On the fourth day 1500 cc. of clear amber ascitic fluid were drained surgically from the peritoneal cavity. The abdominal wound healed well. Blood chemistry studies showed a gradual rise in the N.P.N. to 115 mg. Blood chlorides were 399 mg., CO^2 combining power 65 vol.%. There was no determination of the plasma proteins. The patient expired on the tenth day. Postmortem examination disclosed the peritoneal cavity to be filled with ascitic fluid. There was ileus with especially marked dilatation of the first foot of the efferent loop of jejunum. The gastrojejunal anastomosis and duodenal stump were well healed, showing no evidence of leakage, and there was no mechanical obstruction. Other findings were toxic degenerative changes of the viscera, early bronchopneumonia, and deep thrombophlebitis of the left leg.

There were five deaths in this group, giving a postoperative mortality of 6.9 per cent for the series.

Careful record was kept of any complaints referable to the gastrointestinal tract during convalescence. There were none in 67 per cent of the cases. Vomiting occurred more often (11 per cent), with diarrhea in 8 per cent, and nausea, fulness, and belching post-cibum, each in 4 per cent. Pain, other than the usual postoperative soreness, was rarely a symptom.

A questionnaire was sent to sixty-three of the patients from one and one-half to three and one-half years after the operations had been performed. There were 42 replies, in which 87 per cent stated that they were satisfied with the results of the operation. They were questioned specifically about the function of their stomachs and many had complaints of nausea, fullness, belching, and sometimes vomiting. The symptoms were periodic and more often related to the morning meal. Transient diarrheal attacks occurred in 17 per cent. Occasionally pain was experienced after meals, but seldom before eating. Certain foods were mentioned specifically by a few as not being tolerated well. These included sweets, fats, coffee and milk drinks. A small number of patients experienced general discomfort apparently related to altered activity of the autonomic nervous system after meals, manifested by sweating, tremulousness, palpitation, weakness, and dizziness. There were not enough cases of those with and without the Hofmeister modification operative technic for the symptoms to be compared for each group. Thirty per cent had lost weight.

More thorough studies were made possible in the 24 patients who were readmitted to the hospital at later dates. One had symptoms of partial high intestinal obstruction. Seven months after the resection a laparotomy was performed and the efferent loop of jejunum near the anastomosis was found to have herniated between the transverse mesocolon and the stomach into the lesser peritoneal sac. Another patient had a gastrointestinal hemorrhage one and one-half years after the resection, the clinical diagnosis being recurrent ulcer. A third patient had developed a hypoproteinemia due to restriction in diet. Gastrointestinal roentgenologic and fluoroscopic studies were made on 11 other patients because of some abdominal complaint. All were negative for ulcer evidence or dysfunction of the gastrojejunostomy.

Two patients were hospitalized elsewhere for gastrointestinal hemorrhages one and one-half and one-fourth years postoperatively, respectively. From their answers to the questionnaire it was suspected that there had been ulcer recurrence in each case. This would give an incidence of 4 per cent recurrence. These three patients had had resections of at least two-thirds of their stomachs for duodenal ulcer. Hyperchlorhydria had existed preoperatively.

Free hydrochloric acid was present postoperatively in two. The third patient had apparently a true achlorhydria. However, after he had recovered from the hemorrhage from the recurrent ulcer, 20 cc. of N/10 HC1 was found to be present in one of the five fractional specimens.

In further consideration of the six patients who, in the questionnaire, expressed any dissatisfaction with the results of the operation, the three who had subsequent gastrointestinal hemorrhages were satisfied until the occurrence of hemorrhage. The fourth patient, who was not sure, was having symptoms from cirrhosis of the liver. Roentgenographic study of the gastrointestinal tract was negative. The fifth patient had given an ulcer history preoperatively of three years duration and had complained of diarrhea, vomiting and epigastric pain. At the time of operation it was noted that the ulcer, which was on the posterior wall of the duodenum, was healing. The resection resulted in a true achlorhydria. Upon hospitalization one year later he complained chiefly of weak spells, poor appetite, vague epigastric pain, and weight loss. Gastrointestinal roentgenographic studies were negative except for a spastic colon. Gastroscopic examination showed some hypertrophic changes of the mucosa. The patient was almost constantly attended by his wife who joined him in his frequent and prolonged discourses about his health. The sixth patient had had an ulcer history of twelve years duration and had had a gastroenterostomy. His main complaint preoperatively was pain. A healing gastrojejunal ulcer was present at the time of surgery. Postoperative gastric analysis showed 10 to 16 cc. of N/10 HC1. There were three subsequent admissions—one month, five months, and fifteen months postoperatively. Repeated gastrointestinal x-ray studies showed a well functioning stoma with no evidence of recurrent ulcer. During the last hospital period it was concluded that his symptoms were mostly due to a spastic colon.

The principal reason for the resection in all but one (hemorrhage) of the six patients who expressed dissatisfaction was apparent failure of response to medical management. The patient who had hemorrhage preoperatively actually was having postoperative symptoms from cirrhosis of the liver which resulted finally in ascites. Evaluation of the intractable medically-managed case for surgery thus may present a difficult problem. Whether it would have been prudent not to have performed the operation on the last two of these six patients will remain a question.

SUMMARY AND COMMENT

Critical analysis of the findings in the cases of 72 patients upon whom gastric resections were performed has been presented with special emphasis on the immediate and late complications. All cases were of men with peptic ulcers, except in two instances in which the lesions were malignant.

The amount of gastric acidity had no apparent relation to the duration of the ulcer or to the complications of hemorrhage, obstruction, and perforation. A true achlorhydria was obtained postoperatively in 58 per cent of those cases in which determinations could be made (52 patients). Best results were with gastric ulcers.

Anemia was unusual. One patient had an associated hypoproteinemia and recovered rapidly on dietary management alone.

About one-third of the patients had difficulty gaining weight to the normal or preoperative level.

The most hazardous early postoperative complication was leakage of the duodenal stump which occurred in six patients with duodenal ulcers, two of whom succumbed. Two deaths resulted apparently from focal pancreatic necrosis which occurred at the site of penetrating ulcers. The fifth death, following ileus, vomiting, and ascites, was thought to be the result of physiochemical disturbances.

Late complications consisted of gastrointestinal hemorrhage in three patients whose symptoms suggested recurrent ulcer, and partial intestinal obstruction in one patient due to herniation of the efferent jejunal loop into the lesser peritoneal sac.

Excluding those patients who had late complications, 95 per cent of those questioned expressed satisfaction with the results of the gastric resection one and one-half to three and one-half years postoperatively.

Obtaining a true achlorhydria seems to be an important factor in the prevention of recurrent ulcer. An effort to improve the results obtained from the operation as performed would include consistent three-fourths resection with a shorter afferent jejunal loop to the anastomosis. Employment of a drain where there is any doubt about the security of the closure of the duodenal stump may be life-saving. Unless there is an obstruction preventing the flow of bile and pancreatic fluids out of the afferent loop of jejunum, a leaking stump will close

spontaneously. The base of an ulcer which has penetrated the pancreas should not be disturbed. It is the best defensive measure of the body against pancreatic necrosis.

In spite of the comparatively good results obtained from gastric resection, the symptoms which occur from a small stomach or from "dumping" are too frequent and at times are incapacitating. The effect which these late symptoms have upon the life of the patient should be included in the final evaluation of the operation for peptic ulcer.

BIBLIOGRAPHY

1. Allen, A. W., and Welch, C. E.: Subtotal Gastrectomy for Duodenal Ulcer. *Annals of Surgery* **124**:688-707, October, 1946.
2. Allen, A. W., and Welch, C. E.: Gastric Resection for Duodenal Ulcer: Follow-Up Studies. *Annals of Surgery* **115**:530-543, 1942.
3. Berkman, J. M., and Heck, F. J.: Symptoms Following Partial Gastric Resection. *Gastroenterology* **5**:85-95, August, 1945.
4. Custer, Jr., M. D., Butt, H. R., and Waugh, J. M.: So-Called "Dumping Syndrome" after Subtotal Gastrectomy. *Annals of Surgery* **123**:410-418, March, 1946.
5. Lannin, B. G.: Experimental Evaluation of a Satisfactory Operation for Ulcer. *Surgery* **17**:712-741, May, 1945.
6. McCarthy, H. H.: Effect of Vagotomy and Partial Gastrectomy on Acidity. Proceedings of the Staff Meetings of the Mayo Clinic, **21**:142-150, April, 1946.
7. Marshall, S. F.: Surgical Management of Chronic Peptic Ulcer. *Surgical Clinics of North America* **24**:618-629, June, 1944.
8. Rienhoff, Jr., W. F.: Analysis of the Results of the Surgical Treatment of 260 Consecutive Cases of Chronic Peptic Ulcer of the Duodenum. *Annals of Surgery* **121**:583-599, May, 1945.
9. Wangensteen, O. H.: Causes of Failure after Gastric Resection; Myth of Intractable Ulcer Together with Note Concerning Importance of Vascular Factor in Genesis of Ulcer. *Wisconsin Medical Journal* **44**:878-888, September, 1945.
10. Wollaeger, E. E., Comfort, M. W., Weir, J. F., and Osterberg, A. E.: The Total Solids, Fat and Nitrogen in the Feces: I. A Study of Normal Persons and of Patients with Duodenal Ulcer on a Test Diet Containing Large Amounts of Fat. II. A Study of Persons Who Had Undergone Partial Gastrectomy with Anastomosis of the Entire Cut End of the Stomach and the Jejunum (Polya Anastomosis). *Gastroenterology* **6**:83-104, February, 1946.
11. Winkelstein, A.: Relation of Gastric Acidity to Recurrent Ulcers After Partial Gastrectomy. *Journal of International College of Surgeons* **8**:539-542, November-December, 1945.

Avoiding Airsickness and Earache in Plane Flights.

In answer to a query, the January 24 issue of *The Journal of the American Medical Association* offers several suggestions on how to avoid airsickness and earache during long plane flights:

"To avoid ear discomfort due to inadequate eustachian tube ventilation, avoid flying during a common head cold or an active allergic rhinitis [inflammation of the mucous membrane of the nose]. When the ears feel full during ascent or descent, swallowing a few times ordinarily relieves this feeling. If stuffiness is not relieved, chewing gum and attempting to yawn may succeed in opening the tubes.

"The upright position with the head slightly extended on the neck favors opening of the tubes. If this is unsuccessful, close both nostrils and puff out the cheeks.

"If trouble is anticipated, either a benzedrine or a tuamine inhaler may be used to constrict the nasal and nasopharyngeal mucosa about 20 minutes before descent. Opening of the tubes either by swallowing or by autoinflation is thereby facilitated. On some of the planes the stewardess is prepared to furnish a small balloon with a nasal tip for this purpose. The balloon is inflated with one nostril while the other is held closed. If simple inflation of the balloon doesn't open the tubes, the swallowing act is then carried out, the inflated balloon still being connected to the nose.

"Airsickness can sometimes be prevented by atropine-like drugs taken an hour or two before the plane trip."

MANAGEMENT OF PERIPHERAL VASCULAR DISEASE*

NATHAN BLOOM, M.D.,
Richmond, Virginia.

The all-inclusive term, peripheral vascular disease, embraces the venous, lymphatic, and arterial systems. There are certain conditions, such as thrombophlebitis and lymphedema, which require specialized therapeutic procedures and, as our time is limited, we will confine this discussion to the more common occlusive disorders involving the peripheral arteries, namely, arteriosclerosis obliterans and thromboangiitis obliterans. It is important to differentiate these two conditions, although there may be the same basic therapy. The major objectives in treatment are to increase blood flow and to retard degeneration in tissues having impoverished arterial blood supply.

The ambulatory individual without ulceration or gangrene of the extremities may only complain of fatigue or intermittent claudication, which is, pain on exercise relieved by rest. This patient's problem is not too difficult and improvement may be expected following conservative measures.

It is essential that this individual have some basic knowledge of his condition. He need not be given a medical lecture but should understand the disturbance in his circulation and the danger in its neglect.

REST

When at rest the lower extremities should be in a horizontal position with a small pillow under the knees. The feet will then be slightly dependent and about six inches below the level of the heart, which is the best position for circulatory efficiency. At this level there is very slight distention of the veins on the dorsum of the foot. The patient is also advised to limit his walking or other active exercises to the minimum and is not allowed to sit with his knees crossed, as this will cause pressure on the popliteal arteries.

TOBACCO

It is imperative that the patient discontinue the use of tobacco. The vaso constriction of peripheral arterioles caused by smoking of tobacco is dangerous to an impoverished circulation. If the patient insists on smoking, he will probably not follow the other necessary procedures in treatment and therefore you may not expect him to improve. We insist that tobacco be discontinued.

ALCOHOL

The ingestion of alcoholic preparations in small amounts causes peripheral vasodilatation. If there are no contraindications, such as chronic alcoholism or cirrhosis of the liver, the patient is advised to take up to six small drinks daily. One ounce of whiskey, three times a day, not only will increase blood flow by vasodilatation but has a mild narcotizing influence.

PASSIVE VASCULAR EXERCISE

We advocate the Buerger type of passive vascular exercise. The patient is advised to perform the exercises three times a day, keeping the limbs elevated at a forty-five degree angle until there is beginning pallor of the feet. This usually takes one to two minutes. The limbs are then placed in a dependent position until rubor appears. This usually takes from three to five minutes. The limbs are then placed in a horizontal position for five minutes. The entire cycle is performed for thirty minutes three times daily.

BATHS

Daily warm tub baths are advocated. The tub bath is in at least twelve inches of lukewarm water and is followed by cocoa butter massage to both extremities. The massage is an up and down motion from the thighs to the toes.

CARE OF FUNGOUS INFECTIONS

Mild fungous infections about the toes may be very dangerous to an individual with poor circulation. Most of the preparations on the market are too strong and may cause injury to devitalized tissues. We suggest boric acid soaks or potassium permanganate 1-10,000 solution. The feet are soaked at least twice a day for fifteen to thirty minutes; they are then dried and a dusting powder, containing boric acid, alum, and starch, is applied.

*Presented at the Conference on Therapy, Medical College of Virginia, February 19, 1947.

Nicotinic Acid

The vasodilatation produced by nicotinic acid is probably due to a local effect on the arterioles of the skin. We advocate this drug in 20 to 50 milligram doses three times daily.

General Care of the Feet

It is necessary that the feet be scrutinized by the patient or the members of his family at frequent intervals and proper care be taken of minor abrasions or lacerations. We do not allow strong antiseptics and suggest properly fitting shoes with small cotton pledgets between the toes. Warm woolen hose with prevention of exposure to cold is important. Garters are not allowed.

These basic principles will usually be sufficient to either improve the circulation or at least retard the spread of an occlusive process in the extremities.

The problem of treatment becomes more difficult when the individual has rest pain or beginning ulceration. It is then necessary for the patient to not only follow most of the suggestions outlined for an ambulatory case but also to be confined at complete bed rest until relieved of the pain or ulceration.

Typhoid Vaccine

If the diagnosis of thromboangiitis obliterans has been substantiated, intravenous injections of typhoid vaccine three times a week may be helpful. Our procedure is to use Lederle's antigen, which contains one-hundred million killed bacteria per cc. The initial dose is five million killed bacteria intravenously. This dosage is gradually increased in order to cause an optimum temperature of 102° F. for several hours without producing a chill. The average dosage is between twenty-five and fifty million killed bacteria. Larger dosages usually will cause a high fever or chill, which may be dangerous to the patient.

Soaks

Usually thermostatically controlled apparatuses are not available and in most general hospitals wet soaks cannot be kept continuously warm over any period of time. We suggest warm boric acid compresses for one half hour periods three times daily. Applications of Tyrothricin 0.05% solution may be very advantageous. Frequently indolent ulcers may respond to applications of powdered red blood cells.

Crymotherapy

Freezing of the involved limb prior to amputation has been successful in alleviating shock in the elderly patient. We have used cold atmospheres to open arteriosclerotic lesions with occasional success. The involved extremity is covered with vaseline gauze and four to six ice bags are packed around it. A constant temperature of 50°F. is attempted. The patient is given a barbiturate as a sedative prior to this procedure. The cold atmosphere is continued for four to eight hour periods and some healing has been noted in arteriosclerotic ulcers without any unusual changes in the circulation.

Operations

Cooperation with the surgical staff is important. Minor nerve crushing procedures will allow the patient to get enough relief from pain so that he may stand various local applications and also prevent narcotic addiction. If vasoconstriction is an added factor, lumbar sympathetic block followed by lumbar sympathectomy is advocated.

Ether

Recently it has been suggested that vasodilatation occurs in certain stages of ether anesthesia, so a group of cases has been treated with 1000 cc. of 5% glucose containing 25 cc. of ether injected intravenously daily for twenty-four days. Venous thromboses may occur but some healing of open ulcers has been obtained.

Tetra-Ethyl Ammonium Chloride

This preparation is structurally akin to acetylcholine. The chief action of this drug is to block at the autonomic ganglia the transmission of both sympathetic and parasympathetic nerve impulses. The results of such a blockade include a fall in blood pressure, inhibition of gastrointestinal movement and inhibition of function of other autonomically innervated structures. Several peculiar side reactions take place in humans. There is tremendous vasodilatation, especially in the limbs, with a rising skin temperature. The patient develops a metallic taste in the mouth, pupillary changes, ptosis of the upper lids, a prompt fall in blood pressure with secondary hypotension, tachycardia, dry mouth, and difficulty in voiding. There is also a tired weak feeling for at least an hour afterwards. All of these phenomena may be relieved by small doses of adrenalin hydrochloride 1-1000 solution. This is a very potent vasodilating drug and, following its use, vasospasm, rest pain, or intermittent claudication has been relieved. In a number of cases vasoconstriction

has not returned. The side reactions are quite severe. It is hoped that the drug will be improved as it may be more reliable than paravertebral block or local nerve block in selecting patients for sympathectomy. The drug must be used with caution in patients with severe hypertension, particularly when renal function is poor. It must be given directly into the vein because of reaction in the tissues.

We have not attempted to cover the entire field of therapy in peripheral vascular disease and have only suggested the more practical procedures and the ones that we know are of definite value. There are some men who feel that mechanical apparatuses have a definite place in treatment, such as the Paevex boot, intermittent occlusion, and the Sanders' oscillating bed. Pancreatic tissue extract, sodium tetrathionate and the estrogens also have their enthusiasts. Iontophoresis with mecholyl will at times heal indolent ulcers. Frequently all of these procedures are without avail and the patient goes on to amputation. We would like to emphasize the importance of close cooperation between the surgeon and clinician, as our best results have been in individuals who have been under the care of a combined clinic.

1006 West Franklin Street.

Personality and Chronic Disease.

With an estimated 25,000,000 Americans suffering from either disabling or nondisabling chronic disease, two San Francisco physicians believe that the medical profession as a whole soon will have to share in the management of social and psychologic problems in medicine if an adequate job is to be done.

The stress and strain of living can be associated with a multitude of physical reactions, Drs. Jurgen Ruesch and Karl M. Bowman write in the March 27 issue of *The J. A. M. A.* Both men are from the Division of Psychiatry of the University of California School of Medicine, San Francisco. They state that while disease and accidents killed a great many people in centuries past, thus making longevity rare, the triumphs of medicine have extended considerably the life expectancy in modern times.

"However," the article says, "every single advance in medicine upsets the existing social structure in a population; this unbalance, in turn, creates new medical problems; therefore, one has to recognize that social-psychologic problems created by scientific advances are also a responsibility of medicine."

The writers point out that at the moment the burden is carried by public health services, preventive medicine, population studies and insurance medicine, but that soon the medical profession at large will have to share in the management of these problems.

In discussing the mind-body relation in disease, the doctors cited as examples persons who overeat, who permanently clear their throat, who scratch their skin, suck their thumb, bite their finger nails, drink liquor, consume barbiturates or expose themselves to accidents.

"In these patients," the article says, "there exist frustrations which are managed by some kind of activity, which in turn leads to deformity, illness or accident."

Touching on outstanding character conflicts of their patients, the doctors said they found that in all men the problem of dependence versus independence was most prominent. "The difference between normal and dependent patients is seen in the fact that dependent persons break down either when the source of dependence is withdrawn, as in separation, or when achievement and compensatory striving are made impossible.

"It is our impression that in medicine the dependent man and the hysterical woman represent the major cause of invalidism . . . . in dependent men and hysterical women the susceptibility to disease and accident is greater, the chance for recovery poorer and the time of convalescence longer."

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for March 1948, as compared with the same month in 1947, and for the period of January through March 1948 compared with the same period in 1947, is as follows:

	Mar. 1948	Mar. 1947	Jan.-Mar. 1948	Jan.-Mar. 1947
Typhoid and Paratyphoid Fever	11	7	30	17
Diarrhea and Dysentery	322	713	918	1,014
Measles	887	1,986	2,058	3,376
Scarlet Fever	111	232	341	538
Diphtheria	22	26	71	90
Poliomyelitis	1	3	4	12
Meningitis	8	12	25	33
Undulant Fever	7	7	21	9
Rocky Mountain Spotted Fever	0	0	0	1
Tularemia	1	2	19	26

TYPHOID FEVER—YESTERDAY AND TODAY

An outstanding monument of progress to public health and the practice of medicine is shown in the marked reduction in morbidity and mortality of typhoid fever in Virginia. During 1947 a total of 122 cases was reported with 10 fatalities, and this may be contrasted with 1917 in which 3,515 cases and 465 deaths were recorded. Similarly, this brilliant achievement is shown in the application of the average 1909-1913 morbidity and mortality rates to the 1945 population of Virginia. Had these rates prevailed, 8,698 cases and 885 deaths would have occurred in the State during this year. This saving in serious illness and in human life in recent years represents a public service of incalculable value.

The following table demonstrates the steady decline in cases and deaths over the past 39 year period:

FIVE YEAR AVERAGE CASES AND DEATHS FROM TYPHOID FEVER IN VIRGINIA—1909-1947

Five Year Period	*Average Annual Cases*	*Average Annual Deaths*
1909-1913	6,634	675**
1914-1918	4,049	503
1919-1923	2,256	244
1924-1928	1,526	221
1929-1933	1,173	145
1934-1938	620	73
1939-1943	289	29
1944-1947*	131	9.5

*Four Year Period.
**Estimated Deaths for this Period.

Major credit is given those whose sustained efforts over the years have resulted in protection of water supplies, a most important factor in typhoid prevention. Accomplishments in vaccination, in sewage disposal, protection of milk and food supplies, and in insect control also have contributed much in prevention. Undoubtedly, improved facilities in diagnosis, treatment and control of cases and carriers have extended further specific control of typhoid fever.

It must be kept in mind, however, that specific and general control measures be sustained and extended to state areas with lesser PROGRAM DEVELOPMENT. At the present time 30% of Virginia Counties are without organized health units and many areas are short of physicians. In recording a total of 83,255 cases of typhoid in Virginia during the past 39 years, it must be remembered that 2-4% remain as permanent carriers and serve as reservoirs of infection. Two per cent of this case load would indicate the presence of 1,665 carriers within the State, and assuming 50% of these to remain active, 832 sources of typhoid fever are scattered throughout Virginia. As has repeatedly occurred elsewhere numerous cases and outbreaks have been traced to unregistered carriers who are a potential typhoid menace at all times. Vaccination against the disease continues to be a necessity for all who may be exposed.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director.*

Work With the Press.

Efforts are now underway to resume our State-wide program of furnishing the press with health and medical care information. Last year "Test Your Medical IQ", written in this office, was used by approximately 50 newspapers.

We are now prepared to offer editors their choice, or all, of three features:

1. "Test Your Medical IQ", a quiz-type column.
2. "Health Talks", which are in essay form and deal with a different disease or health problem in each column.
3. "It's Your Health", a series of brief comments relative to illness or other medical information.

Samples of each of these, with an introductory letter, have been sent to the editors of 118 weekly papers and 22 evening dailies, requesting their advice as to which feature is most suitable for their publication.

When the opinions of editors have been received and studied, one or more of these columns will be provided as a weekly mat service.

All material used in this work, of course, is carefully checked beforehand by five Doctors of Medicine who constitute our Medical Censorship Board.

In an endeavor to localize the approach to newspaper officials, every member of the District Council has been contacted and urged to get in touch with the editor or publisher of the paper, or papers, which serve his area. It has been suggested that these activities also be called to the attention of the membership in local Medical Societies or to the Doctors of Medicine in a county.

If members of the Medical Society of Virginia tell newspaper men of their interest in these public service features and express their appreciation for consideration of our material, this may be an effective way of developing a better relationship with the press.

Kit of Materials.

In preparation at present is a selection of editorials, articles and pamphlets which should prove valuable to members of District Councils and to local Medical Societies. When completed, this Kit of Materials should contain information on numerous problems related to health and medical care.

An early distribution of these materials is anticipated and it is hoped that they will serve as handy reference aids to doctors and others speaking before lay or professional groups.

Radio Programs.

We hope that our State-wide radio program can be resumed in the near future. Letters have already gone to those stations that cooperated with us in this last year, and we hope that within the next week or ten days final arrangements can be worked out.

In addition to our State-wide program, some local Medical Societies are using transcriptions from the AMA Headquarters with their local and smaller radio stations. This in each instance, so far as we know, is also being provided by the stations as a public service (which means that it is not paid for).

The next issue of the MONTHLY should carry a more specific reference to our State-wide program, which we should like to arrange on a six month basis this year.

Public Relations Conference.

The annual Medical Public Relations Conference was held Saturday, December 20, at the Richmond Hotel Roof Garden, with approximately 75 Doctors of Medicine attending.

The general theme of this conference may be observed from the following 13 items on the program:

1. "Word of Welcome", Dr. Guy Fisher, President, Medical Society of Virginia.
2. "Introduction of Guests and Suggested Procedure of Conference", Henry S. Johnson, Director of Public Relations, Medical Society of Virginia.
3. "The Office of Members of the District Council", Dr. Walter B. Martin, Member of the A.M.A. Council on Medical Service.
4. "Health and Medical Care—A Private Enterprise", Dr. J. M. Emmett, Chairman, Public Relations Committee, Medical Society of Virginia, and Chief Surgeon, Chesapeake and Ohio Railroad, C. & O. Hospital, Clifton Forge, Virginia.
5. "The Public Is Educated to Health and Medical Care", Dr. H. B. Mulholland, Member of the Public Relations Committee, Medical Society of Virginia, and Assistant Dean, University of Virginia Medical School.
6. "Our Relationship Between the Private Practitioner and Public Health Officials", Dr. L. J. Roper, Member of the Public Relations Committee, Medical Society of Virginia, and Virginia State Commissioner of Health.
7. "Report of Legislative Committee", Dr. W. C. Caudill, Chairman of the Legislative Committee, Medical Society of Virginia.
8. "Significance and Possibilities of the Virginia Health Council", William Shands Meacham, Director of the Virginia Council on Health and Medical Care.
9. "Voluntary Pre-Payment Medical Care and Hospitalization", Dr. W. R. Pretlow, President of the Virginia Medical Service Association.
10. "Hospital Construction Program of Virginia", R. B. Almack, Director of the Division of Hospital Survey and Construction, Virginia State Department of Health.

11. "Some Suggested Public Relations Activities for Local Medical Societies", Dr. John T. T. Hundley, Jr., Member of the District Council, 6th Congressional District, Medical Society of Virginia.

12. "The Woman's Auxiliary in Medical Public Relations", Dr. J. W. Love, Member of the District Council, 8th Congressional District, Medical Society of Virginia.

13. "Response", Mrs. J. L. DeCormis, President of the Woman's Auxiliary to the Medical Society of Virginia.

This was followed by a general discussion, at which time splendid contributions were made by Thomas A. Hendricks, Secretary of the A.M.A. Council on Medical Service, Chicago, and Dr. Joseph S. Lawrence, A.M.A. representative in Washington, D. C.

On the afternoon and evening of December 19, the Department was host to Medical Public Relations men and several doctors of Medicine from the South. States represented were Florida, Louisiana, South Carolina, North Carolina and West Virginia. These representatives also sat in on the conference the following day.

An excellent coverage of this conference appeared in the Richmond *Times-Dispatch*, Sunday, December 21.

BOOK ANNOUNCEMENTS

Psychobiology and Psychiatry. A Textbook of Normal and Abnormal Human Behavior. By WENDELL MUNCIE, M.D., Practicing Psychiatrist; Chairman, Medical Advisory Board, Seton Institute, Baltimore, Md.; Associate Professor of Psychiatry, Johns Hopkins University; etc. Second Edition. St. Louis. The C. V. Mosby Company. 1948. 620 pages. With 70 Illustrations. Cloth. Price $9.00.

Introduction to Human Physiology. By WILLIAM D. ZOETHOUT, Ph.D., Professor Emeritus of Physiology in the Chicago College of Dental Surgery (Loyola University). St. Louis. The C. V. Mosby Company. 1948. 424 pages. With 138 Text Illustrations and 4 Color Plates. Cloth. Price $4.00.

Textbook of Gynecology. By EMIL NOVAK, M.D., F.A.C.S., Assistant Professor of Gynecology, The Johns Hopkins Medical School; Gynecologist, Bon Secours and St. Agnes Hospitals, Baltimore. Third Edition. Baltimore, The Williams and Wilkins Company. 1948. xi-742 pages. Illustrated. Cloth. Price $8.00.

Tuberculosis. A Discussion of Phthisiogenesis, Immunology, Pathologic Physiology, Diagnosis and Treatment. By FRANCIS MARION POTTENGER, A.M., M.D., LL.D., F.A.C.P., Emeritus Professor of Medicine, University of Southern California, the School of Medicine; Medical Director, the Pottenger Sanatorium and Clinic for Diseases of the Chest, Monrovia, California. St. Louis, The C. V. Mosby Company, 1948. 597 pages. Illustrated. Cloth. Price $12.00.

In this volume the author has presented a very complete review of the pathogenesis of tuberculosis and he has handled his subject matter in such a logical manner that the reader is able to readily understand his concept of phthisiogenesis. This section of the book is extremely well done.

The Visceral Neurology of pulmonary tuberculosis is described at some length and although he is an enthusiastic proponent of the importance of changes in nerve function in the diagnosis of tuberculosis, it is unlikely that more than a very few physicians are able or willing to develop such a diagnostic acumen in this field.

The chapters on Diagnosis of Tuberculosis are very well written, and the emphasis placed on the difference in the clinical manifestations between exudative and proliferative disease is commendable. A special technique of sputum examination is described and should be read by all interested in this particular subject. Differential diagnosis is treated very briefly.

Because of his interest in the treatment of tuberculosis by tuberculin desensitization, this subject is covered very completely. However, as with many therapeutic agents in tuberculosis, it is difficult to appraise the value of this form of treatment, although from the author's rather extensive experience he believes that it has a very definite place in the armamentarium of those treating this disease.

The chapters on treatment of tuberculosis will undoubtedly make many physicians who treat this disease unhappy because of his emphasis of non-compression therapy. However, it is probably fortunate that such a presentation is made as it re-emphasizes the importance of a well planned routine of rest, nutrition and exercise. Pneumoperitoneum, pulmonary resection, surgical collapse, and streptomycin are discussed very briefly.

Those interested in chest diseases will find this book interesting as well as stimulating, because of the author's unusual approach to this disease. This is probably not a suitable text for medical students.

EDWARD S. RAY

REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

The second interim session of the House of Delegates of the American Medical Association was held in Cleveland January 5-7, 1948. For the first time, in connection with this occasion, a scientific program had been arranged, designed primarily for general practitioners. These meetings, together with that of the Congress on Industrial Health and the "Grass Roots Conference", attracted an attendance of over three thousand.

Following the usual addresses by the Speaker, the President-Elect, and the President, the House received reports from the Trustees, Councils, and standing and special committees. Conspicuous among the latter was the report of Delegates from the American Medical Association to the organization meeting of the World Medical Association which was held in Paris in September, 1947. Forty-eight nations were represented. The Association is to be governed by a General Assembly consisting of two delegates from each national medical association and a General Council, consisting of the President, the President-Elect, the Treasurer, and ten elective members. In order to put the Association on its feet financially, American physicians agreed to provide, from voluntary contributions, $50,000 a year for five years, on condition that the headquarters be located in North America. New York City has since been selected for this site.

The Special Committee on Nursing Problems, appointed in June, 1947, and expected to report finally in June, 1948, made an interim report. This covered a large amount of work done by the committee and included a recommendation for establishing a Continuing Conference Committee to be made up of representatives of the American Hospital Association, the American Nurses Association, and the American Medical Association. The recommendation was adopted.

A committee to expedite the work of the House of Delegates proposed an entirely new plan of procedure which was adopted. This eliminates several duplications and time consuming items and promises more efficient functioning of the activities of the House without sacrificing its democratic principles.

During the Session the Board of Trustees distributed to the Delegates a complete record of the work of the Association in carrying out the objectives of its ten point National Health Program. The report has been published in the *Journal* of January 24, 1948, and should be read by every member of the Association. It indicates steady and sound progress toward meeting the needs of the American people for a wider distribution of medical care. Owing to the rapidly expanding activities of the Association and the increasing cost incident thereto, the subscription price of the *Journal,* including fellowship, was advanced to twelve dollars a year.

Several resolutions pertaining to the training and especially to the distribution of interns and residents were considered. Apparently there is a widespread belief that training for general practice is being neglected in favor of specialties, and for this and other reasons, teaching hospitals are able to secure more than their just proportion of interns. Some hospitals approved for training have been able to attract few, if any, interns, and it was suggested that medical schools discriminate against these institutions. Looking toward improving the existing situation, the House authorized a special committee on Intern Placement, consisting of five members, including two general practitioners. This committee will study the question of intern training and distribution and report at the annual session in 1948.

For the first time in the history of the Association, a gold medal was presented to the general practitioner chosen for exceptional service to his community. The recipient of this medal, selected from some two hundred nominations, was Dr. Archer Chester Sudan, of Kremmling, Colorado. For twenty-one years Dr. Sudan, a former teacher of Medicine, has served a thinly settled area within a radius of eighty miles and at the same time has identified himself actively with medical organizations and public health. The recognition thus accorded indicates the American Medical Association's appreciation of the importance of the general practitioner in the plan for medical service it sponsors.

H. B. MULHOLLAND, M.D.
J. MORRISON HUTCHESON, M.D.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... MRS. J. L. DECORMIS, Accomac
President-Elect ..... MRS. R. M. REYNOLDS, Norfolk
Recording Secretary ..... MRS. M. H. HARRIS, West Point
Corresponding Secretary ..... MRS. HOLLAND TROWER, Eastville
Treasurer ..... MRS. REUBEN SIMMS, Richmond
Parliamentarian ..... MRS. E. LATANE FLANAGAN, Richmond
Historian ..... MRS. H. A. LATANE, Alexandria

Auxiliary Meetings.

ALEXANDRIA

The Women's Auxilary to the Medical Society of Alexandria started the new year in September 1947 with many new members. At the first meeting new officers elected were Mrs. O. Anderson Engh, president; Mrs. Charles V. Amole, vice-president; Mrs. George Speck, recording secretary; Mrs. C. E. Arnette, treasurer; and Mrs. T. L. Lucas, corresponding secretary. It was decided to hold business meetings on alternate months and to have a social meeting on the other months. In October, Mrs. A. E. Drexel and Mrs. C. E. Arnette entertained at a tea in honor of the new members, at the home of Mrs. Arnette. Mrs. Engh and Mrs. Nathan Schuman had a luncheon at the Anchorage in December and in February Mrs. James Moriarity, Mrs. Sigmund Smedal and Mrs. John Kilday entertained at tea at the Old Club.

In January the Auxiliary assisted at a reception at the Belle Haven Country Club given by the Medical Staff in honor of Mr. and Mrs. Van Campen Adams. Mr. Adams is the new administrator of the Alexandria Hospital.

The Medical Society has held their meetings this year at the Alexandria Health Center and the Auxiliary has served refreshments after each meeting.

The Auxiliary donated $25.00 to the Nurses Library Fund and provides a scholarship for a student nurse at the Alexandria Hospital.

ELMYRA DAVIDSON PICOT
(Mrs. Harrison)

WARWICK

On March 17th, the Auxiliary to the Warwick County Medical Society held its monthly meeting at the Colony Inn in Hilton. Mr. Henry Johnson, Director of Public Relations of the Medical Society of Virginia, spoke on "Medical Public Relations".

GLORIA C. GOLDSMITH, *Publicity Chairman*
(Mrs. William M.)

DANVILLE-PITTSYLVANIA

The Auxiliary to the Danville-Pittsylvania Academy of Medicine held a luncheon meeting on February 5th in Danville. The guest speaker was Dr. James W. Jennings who gave a most interesting talk on "Dental Care for Children". At the business meeting which followed, a new project was adopted to raise a substantial fund for the Memorial Hospital Building Fund.

MRS. WALTER MCMANN, *President*

NORTHAMPTON-ACCOMAC

The regular quarterly meeting of the Auxiliary to the Northampton-Accomac Medical Societies was held on April 13th at the home of Mrs. W. T. Green, Jr., of Nassawadox, with Mrs. John R. Hamilton as co-hostess. There were eighteen members present. After a most delightful luncheon and social hour, Dr. George Cooper, Jr., Charlottesville, Medical Research Director of the Virginia Division of the American Cancer Society, spoke on cancer research, treatment, the danger signals, and the establishment of a cancer detection center and tumor clinic on the Eastern Shore. His talk was very interesting and greatly enjoyed by all members. At the business meeting which followed, Mrs. S. K. Ames, President, presided. It was reported that this Auxiliary had obtained more subscriptions to *Hygeia* than any other auxiliary in the State, and nine new subscriptions to *The Bulletin* were reported. A letter was read from the superintendent of the Northampton-Accomac Hospital thanking them for the gift of $25.00 for the outstanding graduate nurse having the highest average. The next meeting of this Auxiliary will be a "Get Together Buffet Dinner", honoring the doctors, which will be held at La Fonda on May 12th.

CATHERINE R. TROWER,
Chairman, Press and Publicity
(Mrs. Holland)

EDITORIAL

Topectomy

THIS new operation for "incurable" mental patients is interesting if not unique from a number of angles. It was developed by the "Columbia-Greystone Associates in Problems of Human Frontal Lobe". No name of any person is attached to the operation. More than 100 persons were engaged on the project. The Associates say that "no person, either physician or anyone else involved in the project, can be considered more important than any other". The operation is interesting furthermore in that it brings us closer to solving the problem of the function of the frontal lobes of the cerebrum. It is also an example of what can be accomplished by the cooperation of scientists aided by philanthropic agencies. The investigation started with an original grant to Columbia University from the Myra Salzer Fund. The rest of the cost has been borne by the State of New Jersey, the College of Physicians and Surgeons, various philanthropic agencies and private individuals and even the investigators themselves. The study started at Columbia during the war as an effort to analyze the factors involved in the many unpleasant features of lobotomy. Existing theories of the function of the frontal lobes were reinvestigated and the basic anatomy of the complex fibre connections of this part of the brain were restudied. In spite of the difficulty of procuring apes during the war, the work was completed. The findings suggested that only a part of the cortex of the frontal lobe might have to be removed to overcome the depressive aspects of a psychosis and that if properly done no deaths nor unpleasant change in personality would result.

The investigations were now transferred to the New Jersey State Hospital at Greystone Park, because many of the families of patients in that institution have already requested lobotomy for their relatives and because the efficient and enlightened administration of that hospital permitted an adequate clinical study of the patient. Forty-eight hopelessly insane patients were selected and of these twenty-four were excluded from operation during extensive pre-operative study. Of the twenty-four operated upon, none died and none showed any marked change from pre-illness personality. One patient suffers from convulsions. Twenty were declared ready for di charge. Eleven are at home and ten are working at their former occupations.

In general the results of the operation indicated that when certain portions of the frontal lobes are removed from psychotic patients, the overall psychological efficiency and mental equilibrium of the patient, as measured by psychological tests, are as good or better than shown by the patient before the operation. In contrast to lobotomy, there is no evidence of deterioration in social behavior. The losing of fears, anxieties and other worries by the patient continues for several months. Topectomy is used to treat the same general type of mentally ill patients as are aided by lobotomy, but the operation does not replace lobotomy. It is rather a refinement upon the original procedure.

Sexual Behavior of the Human Male

A NEW book with the above title has become a best seller. There have been studies of the sex behavior of other animals, but none has had the sales as that of Professor Kinsey's study. William Harvey studied the behavior of the king's deer in the XVII century, and more recently there have been studies of the sex behavior of primates and of savages. In animals up to and including the anthropoid apes sexual congress is controlled by the sex hormones and sex behavior follows a simple pattern. Coitus takes place only when the female is ready to conceive. Among

savages the procreational purpose of sexual congress becomes subordinated to appetite. In fact many savages seem entirely unaware that there is any connection between coitus and pregnancy.

Professor Kinsey and his group have conducted this study in a straightforward, occidental, statistical manner. They used the technic of a Gallop poll. Sizable groups, large enough to be statistically significant, were interrogated and the answers were recorded in code which was known only to the staff. They make a great point of the fact that the code existed only in the minds of his staff and himself. We do not see the value of this provision. It would seem that such a procedure would make for a larger error due to the personal equation. A written code is a fixed guide, but in a person's mind it is subject to some variation from time to time.

In keeping with the present day political philosophy, the authors divided the population into classes. Instead of using wealth or income as a means of separating the higher social levels from the lower, they use as a test the age period at which the individual terminated his formal education. Judged by the pattern of sexual behavior the males of the upper and lower social levels are entirely different animals. They analyzed his cases according to religion, dividing the white males into the following groups: Protestant, active; Protestant, inactive; Catholic, devout; Catholic, inactive; Jewish, orthodox; and Jewish, inactive. It is quite evident that religion makes less difference in sexual behavior than does social status. The authors admit that they have interviewed too few Negroes to come to any conclusions about the effect of race, but the cases they have would seem to indicate that race is a less potent factor than social level. It is interesting that the oldest potent male in their histories was an 88-year old Negro who was still having regular intercourse with his 90-year old wife. A suggestion of this difference in sexual behavior of different social levels was noted by Malinowski in his "Sexual life of savages in North-Western Melanesia". The chiefs marry only virgins whereas outside of the ruling classes virginity is unknown.

It is difficult to give an overall picture of the sexual behavior patterns in the space of an editorial. Briefly, the age of onset of adolescence for the grade school boy is 14.14 ± 0.044 years, for the high school boy 13.67 ± 0.049 and for the college grade boy is 13.39 ± 0.023 years. Homosexual contacts occur most often in the group that goes into high school but not beyond and least frequently in the group that goes to college. College males have their first intercourse on an average 5 or 6 years later than the lower level male. Heterosexual petting is preeminently an occupation of high school and college levels. The upper level male has a minimum of pre-marital or extra-marital intercourse. The lower level male on the other hand has an abundance of pre-marital intercourse and a considerable amount of extra-marital intercourse in the early years of his marriage. Prostitute intercourse among those males who are not married by the age of 25 years has been had by 74% of the grade school level and by 54% of the high school level, but by not more than 28% of those who belong to the college level.

To a medical man the study would have been more interesting and valuable had the authors included a question as to when and how frequently a venereal disease was contracted. We know from routine Wassermann determination upon well people that less than 1% of the higher social level have a positive test as against 8 to 10% of the lower levels. The group that practices continence, is entirely ignored. A medical man or a family counselor would be grateful for detailed information about the health and happiness of such folk.

SOCIETIES

Alexandria Medical Society.

At the meeting of this Society on April 15, the following officers were elected for the ensuing year: President, Dr. Arthur J. Mourot; vice-president, Dr. John C. Watson; and secretary-treasurer, Dr. Ben C. Jones, Jr. The retiring president, Dr. Harrison Picot, was elected as a member of the Executive Committee. Dr. George Speck of Arlington is retiring secretary.

Arlington County Medical Society.

Following a business session of the March 18th meeting of this Society, Dr. O. Anderson Engh and Dr. Frank Graybill presented four cases of Causalgia and the excellent results achieved by sympathetic block. After this, Mr. Oren Lewis, prominent attorney of Arlington, gave a talk on Medical Legal Medicine, which proved an interesting subject for discussion.

The Fauquier County Medical Society

Met in Warrenton on April 18, at which time several doctors were elected to membership.

Dr. V. L. McCullers read an excellent paper on new drugs in the treatment of cancer, which was discussed by Drs. Musgrave, Hiden and Bailey. The Society showed unusual interest and felt much indebted to Dr. McCullers for bringing its members up to date on this most important matter.

Dr. Bailey spoke on Supersonic sound as a possible cure for cancer. Mr. B. B. Sale, Manager of the Telephone Company, showed two movies—one demonstrating the efficiency of the telephone company in a disaster and showed how quickly they could resume efficient service after having their central office in Chicago destroyed. The other movie showed a Caesarean Section, in which large amounts of absorbable gauze were left in the patient to control hemorrhage. The latter picture was commented on by Dr. Joseph L. Whatley. Dr. Bailey discussed the use of absorbable gauze in the control of hemorrhage in tonsil operations. The Caesarean picture was furnished by Parke, Davis and Company, manufacturers of Oxycel, the absorbable gauze demonstrated in the movie. M. B. HIDEN

The Lynchburg Academy of Medicine

Held its regular monthly meeting on the evening of April the 12th, with Dr. H. L. Riley, Jr., presiding. Dr. Seymour Schotz of the Medical College of Virginia presented an interesting discussion on "The Role of Anesthesiology in Modern Medical Practice", which was much enjoyed.

JOHN T. T. HUNDLEY, *Secretary.*

The Medical Society of Northern Virginia

Met in Luray at the Mimslyn Hotel on April 13th and was conducted by Dr. C. H. Iden of Berryville, the newy elected president. The program consisted of case reports by Drs. James Miller, C. L. Riley, and F. D. Maphis, Jr., and papers by Drs. Leslie Bell and Joseph Bowers. Invited guests were Drs. Manfred Call, III, and John Call of Richmond, who presented jointly an interesting paper on "Hypothyroidism". Following the business session, the Society adjourned for luncheon. The next meeting will be held in Winchester on August 9th. FRED D. MAPHIS, JR., *Secretary*

Roanoke Academy of Medicine.

In March the Academy had a dinner meeting in the ball room of Hotel Roanoke, which was sponsored by the Public Service Staff of Roanoke Hospital. One hundred and thirty members and guests were present. Guest speakers for this occasion were: Dr. Lloyd G. Lewis, associate professor of urology at Georgetown University, whose subject was "Cryptorchism", and Dr. R. Franklin Carter, clinical professor of surgery at the New York Post-Graduate Medical School, Columbia University, who spoke on "The Diagnosis and Management of Appendicitis in Children."

Following a short business session of the Roanoke Academy of Medicine on April 5th, the scientific program was in charge of the staff of the Gill Memorial Hospital, who presented the following guest speakers:

Dr. Bayard T. Horton, Mayo Clinic, Rochester, Minn., who spoke on "Headache and Head and Face Pains: Diagnosis and Treatment" (illustrated with motion pictures).

Dr. H. J. Moersch, professor of Medicine at the Mayo Clinic, whose subject was "Hiatal Hernia". His talk was also illustrated with motion pictures.

Following the scientific program, those present were entertained at a buffet supper as guests of the Staff of the Gill Memorial Hospital.

Dr. Charles M. Irvin and Dr. Ira H. Hurt, both of Roanoke, are president and secretary respectively of the Academy.

NEWS

American Academy of General Practice.

For those interested in membership in the Virginia Section, American Academy of General Practice, applications may be obtained from John O. Boyd, Jr., M.D., Secretary, 820 South Jefferson Street, Roanoke. These should be filled out in detail and returned to Dr. Boyd with two checks—one for $25.00 payable to the American Association of General Practice to cover initiation fee and one year's dues in the National organization, and a check for $5.00 payable to the AAGP of Virginia for dues in this Section for one year. The application will be processed by the State Membership Committee and, upon their acceptance, you will be automatically received in the National organization. The Virginia Section hopes to enroll all reputable, conscientious general practitioners in this State and further to organize them into sub-sections within their own locales.

Officers of the Virginia Section are: President, Dr. W. L. Powell, Roanoke; president-elect, Dr. James L. Hamner, Mannboro; vice-president, Dr. C. R. Titus, Bedford; secretary, Dr. John O. Boyd, Jr., Roanoke; treasurer, Dr. William R. Pretlow, Warrenton. The Board of Directors is composed of Drs. E. E. Haddock, Richmond; Frank Farmer, Roanoke, Mary E. Johnston, Tazewell, Ira Hancock, Creeds, B. A. Hopkins, Stuart, J. C. Coulter, Charlottesville, C. P. Jones, Jr., Newport News, W. J. Ozlin, South Hill, and Harold Miller, Woodstock.

Neuropsychiatric Seminar.

A two-week seminar on nervous and mental disorders has recently been completed in Richmond and proved most successful. Dr. Joseph E. Barrett, State Commissioner of Hospitals and Mental Hygiene, said he hoped this could be repeated from year to year as a part of the education program of his department. The seminar was made possible through the Federal Mental Health Act and was organized under Dr. Barrett's supervision with the cooperation of the United States Public Health Service, the American Psychiatric Association, and the Medical Society of Virginia. Invitations went out to physicians in Virginia, Maryland, North and South Carolina, West Virginia and the District of Columbia. Attendance was between 500 and 600 and represented all of the above named states. Speakers were outstanding specialists of the country. Transcripts have been made which may be used by those unable to attend this seminar.

Dr. Norman Sollod,

Recently connected with the medical staff of McGuire VA Hospital, Richmond, has opened offices at 1625 West Grace Street, this city, for the practice of internal medicine.

Dr. James W. Todd,

Formerly at de Paul Hospital, Norfolk, but more recently connected with the Moore General Hospital at Swannanoa, North Carolina, has now located for practice at the hospital at Virginia Beach.

The Virginia Pediatric Society

Is holding its Spring meeting in the Amphitheater of the University Hospital, Charlottesville, beginning at 10:30 a.m. on May the 6th. Dr. Thomas A. Gibson of Winchester is president and Dr. E. Berkeley Neal of Roanoke, secretary-treasurer.

Dr. D. Edward Watkins,

Of Waynesboro, announces the limitation of his practice to surgery and gynecology, with offices at the Medical Building, that city.

Dr. H. Hudnall Ware, Jr.,

Richmond, was one of the guest faculty at the George Washington University Medical School Post-Gradaute course on March 11, at which time he gave two lectures in gynecology.

Dr. Claude C. Coleman,

Richmond, recently returned from a vacation in Arizona. He was re-appointed by Carl R. Gray, Jr., new administrator of the Veterans Administration, to represent neurological surgery on the Special Medical Advisory Group, which is made up of nineteen members, each representing a specialty in medical science.

Assistant Secretary A.M.A.

Dr. Ernest B. Howard has taken up his duties as assistant secretary of the American Medical Association. Since December 1945, Dr. Howard served as director of the health mission to Peru, South America, of the Institute of Inter-American Affairs with the Department of State.

Artists, Beware!

If you plan to exhibit at the Chicago Exhibition (American Medical Association, June 21-25, 1948)—Now is the time to write for entry blanks, rules, shipping labels, etc.

Haste is necessary because your entries must reach Chicago between May 1 and June 12.

For details, please write airmail to Francis H. Redewill, M.D., Secretary, American Physicians Art Association, Flood Building, San Francisco, California.

Married.

Dr. Francis Record Whitehouse, Lynchburg, and Miss Elizabeth Watts, Bryan, Texas, April 2.

Dr. John Calhoun Risher and Miss Anne Hume Nash, both of Charlottesville, April 10. Dr. Risher is at present on the House Staff of the University of Virginia Hospital.

Dr. John Powell Williams,

Of Richmond, represented the Medical Society of Virginia at the recent session of the Council on National Emergency Medical Service of the American Medical Association in Chicago. Discussions pointed out what State medical associations can do to provide adequate medical service for the civilian population in time of national emergency and what the armed forces and other Federal agencies are doing with regard to medical, health and sanitary services at such times.

Post-Graduate Courses in Chicago.

The Chicago Medical Society is offering physicians of the country two postgraduate courses in September—a course in Hematology and Neurology September 13-18, and another in Cardiovascular and Respiratory Diseases, September 20-25. The sessions will be held in Thorne Hall on Northwestern University Medical School campus, and an outstanding group of teachers from all sections of the United States will make up the faculty.

Information may be secured by writing the Chairman, Committee on Postgraduate Medical Education, Chicago Medical Society, 30 North Michigan Avenue, Chicago 2, Ilinois.

Dr. John G. Crawford,

Class of '39, University of Virginia Medical School, who was connected with the staff of Blue Ridge Sanatorium, Charlottesville, after his return from Service in 1946, located in Staunton early this year and took over the offices of the late Dr. J. E. Womack at 16 East Frederick Street, where he is engaged in general practice.

The American College of Physicians, Virginia Section,

Held a meeting at the University Hospital, Charlottesville, on February 12, with approximately sixty members of the College and thirty guests attending. Dr. Staige D. Blackford, Chairman of the Section, presided. Dr. Byrd S. Leavell was Chairman of the Program Committee. Mr. Edward R. Loveland, Executive Secretary of the American College of Physicians, of Philadelphia, was the guest speaker. A scientific program with presentation of papers was arranged from 1:00 to 5:00 P.M. and was followed by a dinner for members and their guests at the Farmington Country Club.

Dr. James F. Waddill, Norfolk, is secretary of the Section.

Dr. David B. Corcoran,

Recently connected with McGuire VA Hospital, Richmond, has located in Suffolk where he is a member of the surgical staff of Lakeview Hospital.

Dr. Harry H. Henderson,

Formerly assistant epidemiologist with the State Department of Health, has completed a post-graduate course at the Medical College of Virginia and is now engaged in the practice of pediatrics in Fredericksburg, with offices in Professional Building.

News from the University of Virginia.

The following papers by members of the faculty of the University of Virginia School of Medicine were reported at the meeting of the Federation of American Societies for Experimental Biology in Atlantic City, New Jersey, on March 15th through March 19th.

Pilot Metabolisms and Respiratory Activity During Varied Flight Tests, Dr. E. L. Corey.

Circulatory Reserves Shown by Animals Under Acceleratory Exposure, Drs. S. W. Britton and V. A. Pertzoff.

Effect of Some Central Nervous System Stimulants and Depressants on the Activity of Succinic Dehydrogenose, Dr. D. T. Watts.

Inhibitory Efforts of Naphthoquinones and Related Compounds on Glycolysis, Dr. C. L. Gemmill.

Fractionation of Lymphoid Tissues, Dr. E. C. Gjessing.

Inhibitory Effects of Stilbamidine guanidine and arginine on glycolysis, Dr. C. L. Gemmill.

Studies on the Agglutination of Human and Rat Red Cells by Caster Bean Extracts, Drs. S. Ludewig and Alfred Chanutin.

Dr. Oscar Swineford, Jr., Professor of Practice of Medicine, addressed the general assembly of the Dallas Southern Clinical Conference, held from March 15 through March 18th, on the subject of "The Management and Classification of Asthma". He also addressed the medical section of the conference on the subjects, "The Treatment of Pollen Hay Fever" and "Use of Drugs in Allergy".

On March 19, Dr. Swineford addressed the Medical Society of Augusta, Georgia, on the subject, "Drug Allergy".

Dr. Harry S. N. Greene, Professor of Pathology at the Yale University School of Medicine, was the guest speaker for the annual Phi Beta Pi Cancer Lectureship on March 24. He spoke on the subject of "Biological Assessment of Tissue Potentialities".

Dr. Bayard T. Horton of the Mayo Clinic spoke on the subject: "Headache: Differential Diagnosis and Treatment", in the Amphitheatre on April 9, as guest speaker on the Postgraduate Program for House Officers.

The American Physiological Society, at its recent annual meeting, approved the formation of the new JOURNAL OF APPLIED PHYSIOLOGY, to start publication in July, 1948. Dr. C. L. Gemmill, Professor of Pharmacology, has been appointed as a member of the Editorial Board, to be composed of twelve physiologists from North America. He will represent particularly the field of Aviation Physiology.

Dr. Rudd Honored.

Dr. Wortley F. Rudd, Richmond, Dean Emeritus of the Medical College of Virginia School of Pharmacy, has been awarded the 1948 Herty Medal for outstanding contributions to chemistry in the Southeast. This Medal is given annually by the chemistry department of the Georgia State College for Women to a scientist selected by the American Chemical Society.

The Southern Pediatric Seminar

Will be held at Saluda, North Carolina July 5-17, this being its twenty-eighth annual session. Dr. Samuel F. Ravenel of Greensboro, N. C. is dean, and the faculty includes well known specialists from the Southern states. The only expense is the registration fee of $25.00. Accommodations may be secured by communicating with the Secretary-Treasurer, M. A. Owings, Saluda, N. C. Classes end at 4:30, thus allowing ample time for the recreations to be had in this lovely mountain country.

Two Blue Shield Plans Pass 700,000 Members.

With the release of 1947 enrollment reports, AMCP announced that two Blue Shield plans had passed the 700,000 mark in enrollment. United Medical Service in New York City reported a total enrollment on December 31, 1947 of 729,794 persons, while Massachusetts Medical Service reported, as of the same date, an enrollment of 725,-519.

Michigan Medical Service still tops the list with 935,531 persons enrolled.

For Sale:

Established medical laboratory, modern equipment, ideal location, most desirable for doctor with knowledge of E. K. G. Communicate with Midtown Medical Laboratory, Wright Station, Post Office Box 9581, Norfolk 5, Virginia. (*Adv.*)

Resident Physician.

Private hospital specializing in treatment of Alchoholism and Narcotic Addiction desires high type person, male or female, for permanent position. Salary open. Adress R.P. care this journal, 1220 East Clay Street, Richmond 19, Va.

For Sale:

1 S.W. Diathermy #550 and attachments (Liebel-Flarsheim) in excellent condition;

1 S.W. Diathermy #500 and attachments (Liebel-Flarsheim) good condition;

1 Electro-surgical portable Bovie unit;

1 G.E. Model C. Quartz lamp.

This equipment may be seen at the home of the late Dr. J. E. Knight at Warrenton, Va. (*Adv.*)

Attractive Proposition

For middle-aged physician who desires to allot more time to recreation. Excellent hunting, fishing, and boating facilities. Partnership—no heavy investment. Give information about self in letter. Interview will be arranged. Address K-1, care this journal, 1200 East Clay Street, Richmond 19, Va. (*Adv.*)

OBITUARIES

Dr. Alfred Chambers Ray, Sr.,

Well know physician of Ashland and Richmond, died March 22nd. He was seventy-two years of age and a graduate of the former University College of Medicine, Richmond, in 1897. After practicing at Eagle Rock for ten years, Dr. Ray came to Ashland to serve as college physician for Randolph-Macon which position he filled for almost thirty years, retiring because of ill health. He also at one time served as medical director of the Tidewater Memorial Hospital at Lynnhaven and was a physician at the City Home in Richmond. Dr. Ray had been a member of the Medical Society of Virginia for forty-two years. His wife, four sons and one daughter survive him. Two sons are Drs. A. C. Ray, Jr., Ashland, and Edward S. Ray, Richmond.

Dr. David Pendleton Bowman,

Who had practiced at Crimora for the past fifty years, died April 7th, at the age of ninety. He graduated in medicine from the University of Pennsylvania in 1887, and practiced in several places before locating at Crimora. He is survived by a son with whom he made his home.

Resolutions on the Death of Dr. Doggett.

Doctor Benjamin A. Doggett is the second of Norfolk's outstanding Surgeons to be claimed by death, within the space of a few months. His passing is a great loss to his family, The Norfolk County Medical Society, and to the entire city of Norfolk.

As all great Physicians would desire, Dr. Doggett's last act in life was one of duty and charity; for it was while performing a delicate operation in the hospital that he lost consciousness. He died that evening, and the news of his death brought to the minds of his many friends the verification of the words, "No greater love hath any man than that he lay down his life for his friend."

Dr. Doggett, being a comparatively young man, his death came as a great shock to the community. We, who had witnessed so gladly his recovery from a serious illness, some months previously, had wished that he would be with us for many, many years to come.

"Ben", as he was affectionately called by his confreres and close friends, inspired admiration and respect, not only as a Surgeon, but also for his courage in overcoming a physical handicap, never becoming rebellious or complaining. His chief recreation was golf, which he enjoyed playing with his friends and with his devoted wife and daughter.

At the time of his death, Dr. Doggett was President-Elect of the Norfolk County Medical Society. Some of the other offices to which he was elected were Past President of the De Paul Hospital, Past President of the General Hospital, and at the time of his death he was on the Executive Staff of the De Paul Hospital.

He was a Fellow of the American College of Surgeons, a member of the Southeastern Surgical Congress, the American Medical Association, and the Alpha Kappa Kappa Fraternity. In addition to his membership in Medical Societies, Dr. Doggett was a member of the Board of Stewards of the Park Place Methodist Church and the Norfolk Rotary Club, as well as a member of the Ruth Lodge A. F. & A. M.

Dr. Doggett graduated from the Medical College of Virginia in 1915, and before entering the Armed Service in World War I, he was a Surgical Resident at the Mayo Clinic.

He is survived by his wife, Harriet S. Doggett and a daughter, Mrs. Jas. Steward, of Mountain Lake, N. J. He was the son of the late Benjamin G. Doggett and Mrs. Doggett of Weems, Va.

Resolved that this resolution be entered in the Minutes of the Norfolk County Medical Society, a copy sent to his family, and to the VIRGINIA MEDICAL MONTHLY for publication.

And so, on February 27, 1948, Benjamin A. Doggett, Physician, Surgeon and Friend passed to the Great Beyond;

"Calm as a child to slumber soothed,
As if an Angel's hand had smoothed
The still, white features into rest."

(Signed)

A. A. BURKE, *Chairman*
M. W. HEALY
A. B. HODGES

"...pressure of the gravid uterus mechanically interferes..."

in pregnancy

"Constipation is the rule. The pressure of the gravid uterus mechanically interferes with the function of the small intestine and colon per se and also renders the act of defecation less efficient by its effect on the diaphragm, abdominal muscles and levator ani."

—*Bockus, H. L.: Gastro-Enterology, Philadelphia, W. B. Saunders Company, 1946, vol. 3, p. 999.*

"Smoothage" for Management of Constipation in Pregnancy

Management of bowel evacuation without the use of irritant laxatives is accomplished with the gentle, nonirritating action of Metamucil—"smoothage."

By providing soft, plastic, water-retaining bulk, Metamucil promotes normal, easy peristaltic movement—the desired action in pregnancy.

Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent.

METAMUCIL

IS THE REGISTERED TRADEMARK OF G. D. SEARLE & CO., CHICAGO 80, ILLINOIS

SEARLE RESEARCH IN THE SERVICE OF MEDICINE

Medical College of Virginia

HOSPITAL DIVISION

RICHMOND, VIRGINIA

A health center using the latest methods of diagnosis and treatment of disease.

MEDICAL COLLEGE OF VIRGINIA HOSPITAL
OUT-PATIENT DEPARTMENT
SAINT PHILIP HOSPITAL
DOOLEY HOSPITAL

The patient's welfare is our primary interest.

C. P. CARDWELL, JR., ***Director***

RIGGS COTTAGE SANITARIUM

IJAMSVILLE, MARYLAND

★ ★ ★ ★

A PRIVATE SANITARIUM

OFFERING MODERN PSYCHIATRIC TREATMENT

★ ★ ★ ★

Hosea W. McAdoo, M. D. ..... **Medical Director**
Julia Kagan, M. D. ..... **Associate Psychiatrist**

ST. ELIZABETH'S HOSPITAL

RICHMOND 20, VIRGINIA

STAFF

GUY W. HORSLEY, M. D. ..... General Surgery and Gynecology
LEROY SMITH, M. D. ..... Plastic and General Surgery
D. COLEMAN BOOKER, M. D. ..... General Surgery and Gynecology
AUSTIN I. DODSON, M. D. ..... Urology
CHARLES M. NELSON, M. D. ..... Urology
DOUGLAS G. CHAPMAN, M. D. ..... Internal Medicine
ELMER S. ROBERTSON, M. D. ..... Internal Medicine
FRED M. HODGES, M. D. ..... Roentgenology
L. O. SNEAD, M. D. ..... Roentgenology
HUNTER B. FRISCHKORN, JR., M. D. ..... Roentgenology
HOWELL F. SHANNON, D. D. S. ..... Dental Surgery
HELEN LORRAINE ..... Medical Illustration

VISITING STAFF

W. K. DIX, M. D. ..... Internal Medicine
MARSHALL P. GORDON, JR., M. D. ..... Urology
WILLIAM H. HIGGINS, M. D. ..... Internal Medicine
HARRY J. WARTHEN, JR., M. D. ..... Surgery

ADMINISTRATION

N. E. PATE ..... Business Manager

The operating rooms and all of the front bedrooms are completely air-conditioned.

SCHOOL OF NURSING

The School of Nursing is affiliated with The Johns Hopkins Hospital School of Nursing for a three months' course each in Pediatrics and Obstetrics.

Address: DIRECTOR OF NURSING EDUCATION.

to help vanquish depression marked by "morning tiredness"

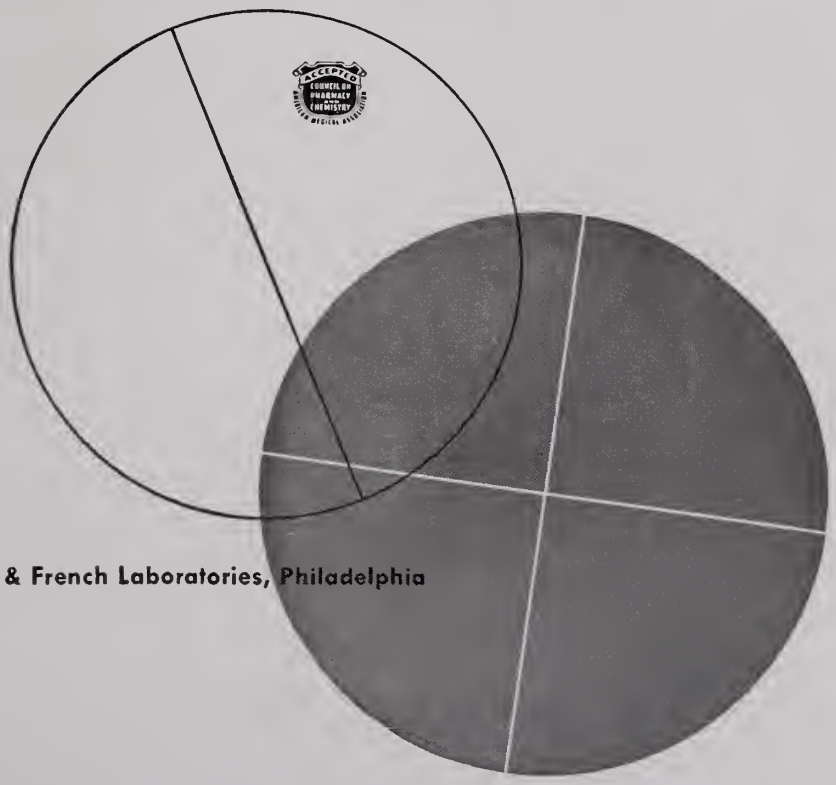
Many depressions are marked by morning tiredness, inertia, lassitude and retardation. 'Benzedrine' Sulfate, taken on awakening, frequently helps to lift the patient "over the hump" of the early hours.

Benzedrine Sulfate—where it shortens, eases, or even eliminates the patient's struggle with depression—may improve the tone of his entire day. While not always effective, Benzedrine Sulfate therapy certainly merits a fair clinical trial in depression marked by morning tiredness.

Tablets Capsules Elixir

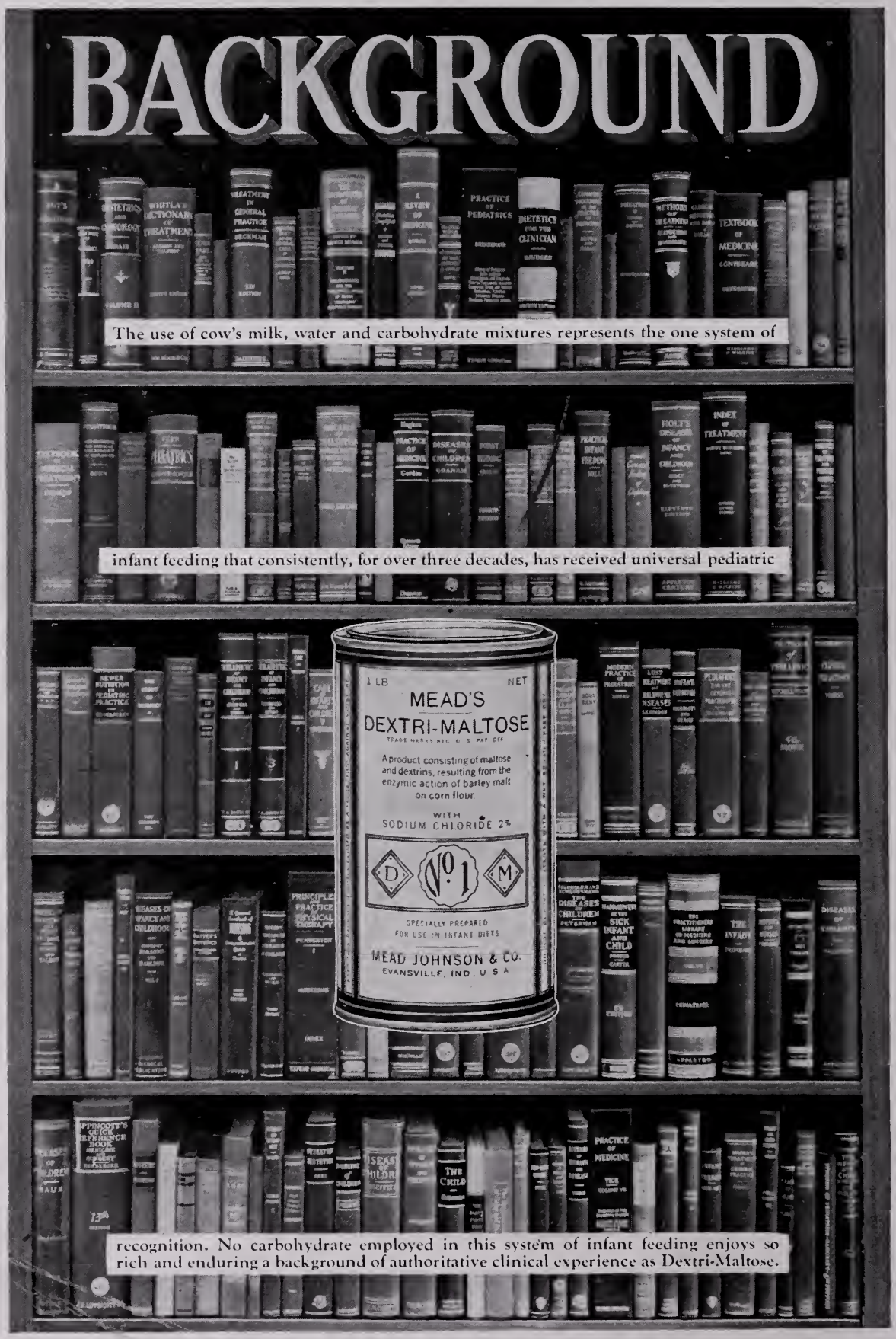
Benzedrine* Sulfate

One of the fundamental drugs in medicine



Smith, Kline & French Laboratories, Philadelphia

*T.M.REG.U.S.PAT.OFF. FOR RACEMIC AMPHETAMINE SULFATE,S.K.F.


BACKGROUND
The use of cow's milk, water and carbohydrate mixtures represents the one system of
infant feeding that consistently, for over three decades, has received universal pediatric
1 LB
NET
MEAD'S
DEXTRI-MALTOSE
A product consisting of maltose and dextrins, resulting from the enzymic action of barley malt on corn flour.
WITH
SODIUM CHLORIDE 2%
D
No. 1
M
SPECIALLY PREPARED
FOR USE IN INFANT DIETS
MEAD JOHNSON & CO.
EVANSVILLE, IND. U.S.A.
recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

THE N.Y. ACADEMY
OF MEDICINE
JUN 14 1948
LIBRARY

Virginia
MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Guest Editorial. Henry R. Viets, M.D. ---------- 263

The Results of Vagotomy. Staige D. Blackford, B.S., M.D. and Alexander McCausland, M.D., Charlottesville, Va. -- 265

Diverticulitis of the Colon. Carrington Williams, M.D. and Carrington Williams, Jr., M.D., Richmond, Va. -------- 269

Rhinosporidiosis of the Conjunctiva—Case Report. Meade Edmunds, M.D., Petersburg, Va. and Regena Beck, M.D., Richmond, Va. ---------- 278

The Treatment of Peptic Ulcer. Guy Winston Horsley, M.D., Richmond, Va. ---------- 281

Another Fatality Following the Use of Tridione and an Hydantoin. R. Finley Gayle, Jr., M.D., F.A.C.P., John P. Lynch, M.D., F.A.C.P. and J. Hamilton Scherer, M.D., Richmond, Va. ---------- 288

Serologic Tests for Syphilis and Their Clinical Application. William J. Frohbose, M.D., Richmond, Va. ---------- 292

Digitalis in Acute Glomerulonephritis. H. Clarkson Meredith, Jr., M.D. and Julian R. Beckwith, M.D., Clifton Forge, Va. ---------- 295

Sinusitis. F. V. Gammage, M.D., F. I. C. S., Grundy, Va. -- 301

Continued on page 6.

Medical Society of Virginia
Annual Meeting
Richmond, October 18-20, 1948

June 1948

Proven effectiveness

in allergic disorders

confirms the

distinctive

position of

BENADRYL

as an

outstanding

antihistaminic

agent.

CONVENIENTLY LOCATED THROUGHOUT VIRGINIA

LOW PRICES

PEOPLES SERVICE DRUG STORES INC

PRESCRIPTIONS

- Alexandria
- Bristol
- Danville
- Fredericksburg
- Harrisonburg
- Newport News
- Norfolk
- Winchester
- Petersburg
- Portsmouth
- Richmond
- Roanoke
- Staunton
- Suffolk

The American Way

is peace, prosperity, and goodwill toward our fellow man—to invest our time in educating and learning; and our money in good citizens and fine institutions.

One of the finest institutions of your State is Richmond Hotels Incorporated, one that maintains the highest modern hotel standards . . . one that combines the hospitality and charm of the old and the convenience and comfort of the new.

John Marshall Murphy *William Byrd Richmond*

Richmond Hotels Incorporated

SAFE

SUPPORT for this HERNIAL PATIENT

The Spencer Abdominal Support for this hernial patient was *individually designed, cut, and made* at our New Haven plant—after a description of the patient's body and posture had been recorded and detailed measurements taken.

The pull of supporting the abdomen is placed on the pelvis, not on the spine at or above the lumbar region. Abdominal support is from below, upward and backward, paralleling the natural pull of muscles. Made of non-elastic materials, the support will not yield or slip under strain, assuring maximum *safety*.

Following application of her Spencer Support, the patient obtained relief of symptoms and was able to return to her job.

Spencer Supports for men, women, and children are each individually designed for each patient.

For a dealer in Spencer Supports look in telephone book for "Spencer corsetiere" or "Spencer Support Shop," or write direct to us.

SPENCER, INCORPORATED
129 Derby Ave., New Haven 7, Conn.
Canada: Spencer, Ltd., Rock Island, Que.
England: Spencer, Ltd., Banbury, Oxon.
Please send me booklet, "How Spencer Supports Aid the Doctor's Treatment."

May We Send You Booklet?

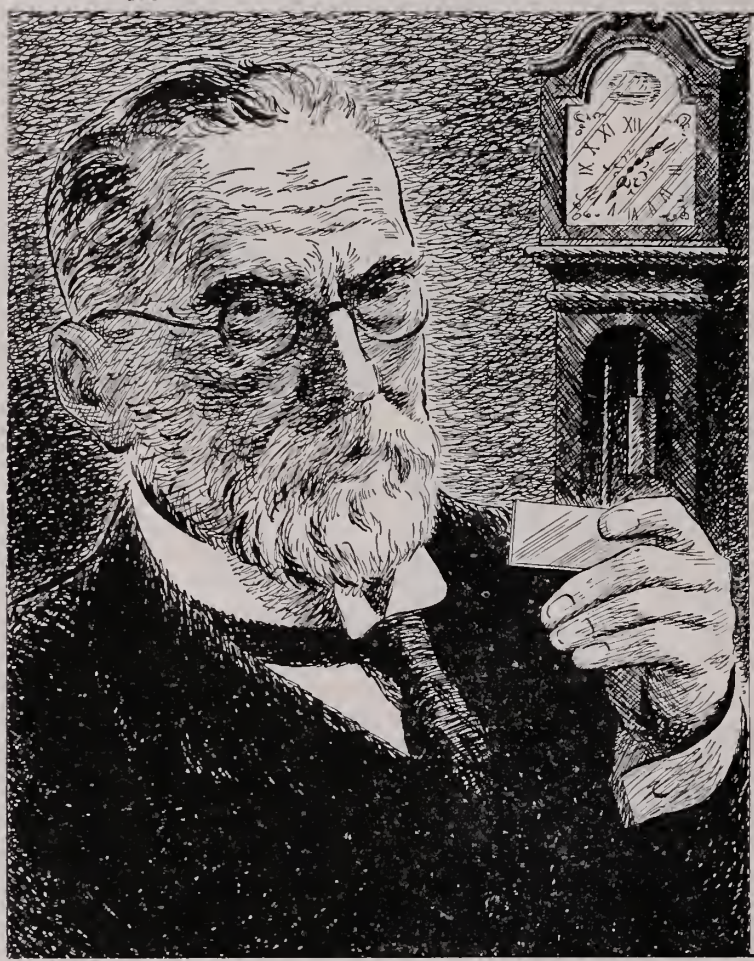
Name ..... M. D.

Street .....

City & State X-6-48

SPENCER *INDIVIDUALLY DESIGNED* SUPPORTS
FOR ABDOMEN, BACK AND BREASTS

Experience is the Best Teacher



Paul Ehrlich
(1854-1915)

proved it in chemotherapy

Paul Ehrlich, expanding on his knowledge gained as a pupil of Koch, concluded from his experiences in the staining of bacteria that there was a close chemical affinity between the cellular body and the stain. This idea led him to believe that specific drugs could be found which would kill invading pathologic organisms, without damage to the host. His conclusions helped create the science of chemotherapy, which is increasingly important today.

Experience is the best teacher in cigarettes too!

Yes! Experience counts—today as always. And with the thousands and thousands of smokers who have tried and compared many different brands of cigarettes, Camels are the "choice of experience."

Try Camels yourself! See how your taste welcomes the rich, full flavor of Camel's choice, properly aged, expertly blended tobaccos. And see how your throat appreciates Camel's cool, cool mildness.

Let your own experience tell you why *more people are smoking Camels than ever before.*

R. J. Reynolds Tob. Co., Winston-Salem, N. C.

According to a Nationwide survey:

More Doctors Smoke CAMELS
than any other cigarette

Three independent research organizations in a nationwide survey asked 113,597 doctors to name the cigarette they smoked. More doctors named Camel than any other brand.

Virginia Medical Monthly

Vol. 75, No. 6
WHOLE No. 1152

RICHMOND, VA., JUNE, 1948

$2.00 A YEAR
25 CENTS A COPY

GUEST EDITORIAL

The American Red Cross National Blood Program

THE National Blood Program of the American National Red Cross, a unique peace time project, with extensive medical and social implications, has begun with the establishment of the first regional Blood Center in Rochester, New York, January 12, 1948. Plans are under way to inaugurate a number of other centers, with their supporting mobile collection units, before the midyear of 1949 and in three to five years, scores of centers will form a nationwide series, strategically located with the view to the most effective procurement and distribution of blood to meet the civilian needs on the community level. Blood is a fundamental form of treatment, both for surgical and medical cases, a fact still not fully appreciated in many urban and most rural parts of this country. Experience tables indicate that approximately 3,700,000 pints could be judiciously used per year—3,000,000 for civilians, and 700,000 pints for the veterans, military and other government hospitals. In other words, the country needs, according to the best estimates, five pints of blood per general hospital bed per year, plus one pint per tuberculosis and neuropsychiatric bed per year. This total, much less than is being furnished by all the organized hospital and community blood banks now in existence, plus the products of the commericial laboratories, is geared to a maximum standard, as viewed today, for civilian use, with some provision for disaster relief short of war. It is the aim of the American National Red Cross to furnish such a continuous supply of blood, sufficient to meet the hazards of peace and at the same time keep in mind the needs for an expanded program in case of grave national or international emergency.

The American National Red Cross is eminently fitted, by long experience, to carry on such a program. As early as the late 1930's a Red Cross chapter in Georgia began to recruit voluntary donors to supply blood free of charge to the doctors and hospitals in the city of Augusta. During World War II the Government called upon the Red Cross, as the logical agency, to procure the blood that proved to be one of the most outstanding factors in saving lives during the War. The wartime program, moreover, was a spectacular success and it engendered so fine a spirit in the people of this country that they gave freely of themselves so that the members of the Armed Forces could survive. Although the greater part of this activity was relinquished at the end of World War II, the Red Cross has carried on since that time a partial peace time program by assisting in meeting the needs in states such as Massachusetts, Michigan and North Dakota and by "permissive" programs giving chapters authorization to participate in city and county blood banks.

At the same time, the American National Red Cross aided in an extensive research program. Based on these investigations, later coordinated with an appropriate committee of the National Research Council, the National Blood Program, now provided for, will make available not only whole blood but blood derivatives of proved value,

such as serum albumin, immune serum globulin, antihemophilic globulin, blood grouping serum, fibrin films, red cell suspensions and other red cell products for both treatment and for further scientific research. Such an extensive program, involving the collection of blood, the processing, the making of blood available and the maintaining of the highest standards, would seem to be a natural prerequisite of the American National Red Cross. When the aim and scope of this program are fully realized, with due recognition of the provisions made by the Red Cross so as not to encroach on qualified existing blood banks, this great peacetime endeavor should have the entire support of the medical profession. Such indeed has been already given to it by a special committee of the American Medical Association.

HENRY R. VIETS, M.D.

20 Gloucester Street,
Boston 15, Massachusetts.

EDITOR'S NOTE: Among other things, Dr. Viets is secretary of the Advisory Board on Health Services of the American National Red Cross.

Bibliotheca Obstetrica

WRIGHT, MARMADUKE BURR (1803-1879): Difficult labors and their treatment. Prize essay. Transactions of the ninth annual meeting of the Ohio State Medical Society. Cincinnati; "West American Monthly" Print. 1854. Pp. 59-88 illus. 21.1cm.

Garrison and Morton (A medical bibliography) list a reprint, Cincinnati, *Jackson, White & Co.,* 1854. A good picture and sketch of Wright is to be found in Thoms' Classical Contributions to Obstetrics and Gynecology. Marmaduke Wright made a worth while contribution to operative obstetrics. Characteristically of the times, he took 30 pages of fine print to describe his operation and to put forward its advantages. The article is accompanied by 12 figures. Six years later Braxton Hicks of London described a similar operation, and the operation usually goes by the name of Braxton Hicks version. Internal podalic version also goes by the same name. This little volume of transactions of 172 pages is strongly reminiscent of another American medical rarity, i.e. the Plattsburgh edition of Beaumont's *Experiments and observations on the gastric juice and the physiology of digestion.* Both were printed by local printers who evidently had no experience with book making.

The author was a native of New Jersey and graduated in medicine at the University of Pennsylvania in 1823. He settled in Ohio and in 1838 was elected professor of materia medica and therapeutics in the Medical College of Ohio. Two years later he became professor of obstetrics, but was removed by the trustees in 1850. He was re-elected to the same position in 1860. He was elected an honorary fellow of the American Gynecological Society in 1876. Dr. Wright was a pioneer in obstetrics and a leader in medical education in Ohio. He was a man of wide interests as is shown by his many papers and addresses. Among them are: Drunkenness, its nature and cure; or asylums for inebriates, delivered before the Ohio State Medical Society 1859; A lecture of the physiological and therapeutical uses of water, delivered to the students of the Ohio Medical College in 1839; The memorial of M. B. Wright in relation to the Medical College of Ohio, the official misconduct of its trustees, the mal-administration of its affairs and the dangerous position of the commercial hospital, made to the General Assembly. Columbus, S. Malory, Printer, 1851.

THE RESULTS OF VAGOTOMY*

STAIGE D. BLACKFORD, B.S., M.D.,
and
ALEXANDER MCCAUSLAND, M.D.,
Charlottesville, Virginia.

Severing the various branches of the vagus nerve was revived in 1943 as a treatment of peptic ulcer by Dragstedt[1]. The procedure is now generally called vagotomy. Vagotomy can be performed through the thorax or through the abdomen. In the transthoracic approach, the operation is performed just above the diaphragm, and allows better dissection of the nerve branches. In the transabdominal approach, the esophagus is pulled through the hiatus into the abdominal cavity, and the nerves are resected from the lower esophageal wall, so that, even in this type of operation, the vagus nerves are interrupted at a supradiaphragmatic level. The transabdominal approach makes possible exploration and additional surgery, such as posterior gastroenterostomy or subtotal gastrectomy, at the same time. In the early days of the operation most surgeons used the transthoracic approach, but, more recently, the swing has been toward the transabdominal approach.

Apparently vagotomy permanently abolishes acid stimulation in the stomach produced either by "sham feeding" or by hypoglycemia, but it does not alter acid stimulation produced either by histamine or caffeine. Initially, vagotomy reduces the amount and the acidity of the night secretion of the stomach by about two-thirds, and it also practically eliminates the large contraction waves of the organ for a time, but, according to Moore[2], the fasting acidity and motility usually return to normal by the end of a year after the operation.

Simple vagotomy gives immediate and complete relief of ulcer pain in nearly all instances. It now seems firmly established that the parasympathetic nerves to the stomach carry no afferent pain fibers since sensations other than pain are perceived after vagotomy. Whether the relief of pain is due to alteration in the secretory or the motor functions of the stomach is not yet determined. It is believed that healing of the ulcer occurs, in most instances, within one to three weeks.

Intractable ulcer pain, marginal ulcer, and recurrent hemorrhages have been suggested as the indications for a vagotomy. Pyloric obstruction and gastric ulcer are considered contraindications unless the vagotomy is combined with supplementary gastric surgery. There is a tendency at present to frequently combine transabdominal vagotomy with gastro-enterostomy[3]. The results are often unsatisfactory in patients with severe hypochondriasis.

Three disadvantages of the operation have been recorded: (A) the failure of the stomach to empty properly, (B) cardiospasm, and (C) diarrhea. The post-operative failure to empty properly may be anticipated in patients who show a preoperative delay in emptying, and may be prevented by combining gastroenterostomy with vagotomy. The mild gastric retention that sometimes develops after simple vagotomy may be relieved by a new drug called urecholine (urethane of beta-methylchlorine)[4]. Cardiospasm following vagotomy can be controlled by the use of tetra-ethyl-ammonium-chloride (etamon). This drug paralyzes both the sympathetic and parasympathetic impulses at the ganglion[5]. With parasympathetic nerves cut, it inhibits the antagonistic sympathetic action producing the cardiospasm. The diarrhea, which is of unknown origin, is difficult to treat, but, fortunately, is usually transitory.

It is thought that when there is recurrence of the ulcer, severance of the vagus nerves has been incomplete. Hollander[6], who has devised a test for the completeness of vagotomy, claims that stimulation of acid secretion by hypoglycemia induced by large doses of insulin indicates that the nerves have not been completely cut.

At the present time, vagotomy must be considered to be in the stage of clinical experimentation. As yet complete evaluation is impossible. The longest follow-up of cases is less than five years and few cases have been followed more than three years. Some reports have been enthusiastic[7], and others guarded[8]. Some clinics have refused to adopt the procedure as yet[9]. Others have swung from advocating the transthoracic approach as a

*From the Department of Internal Medicine, University of Virginia Hospital, Charlottesville, Virginia.
Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

routine to advising that most operations be performed transabdominally[3]. Moore[2], however, still uses the transthoracic approach almost exclusively. One of the early groups[10] seems to have lost some of its original enthusiasm with a longer observation but still recommends the procedure in selected instances. No doubt, the operation is being employed at many of the smaller institutions which have not as yet published their findings. While the evaluation of the results of vagotomy is still in progress, it seems that even a small series of cases is worthy of record. The present report deals with twenty-two vagotomies which have been followed for a short time.

A total of twenty-two vagotomies in the twenty-one patients are included in this report. These operations were performed by five different surgeons of the visiting and resident staff of the University of Virginia Hospital between May, 1946, and May, 1947. When discussing the results of vagotomy one must necessarily consider all the cases in which the operation has been done. Since the results of vagotomy cannot be properly assessed when vagotomy is combined with an additional gastric operation, it is necessary to analyze this group by separating those cases in which vagotomy plus other surgery was done from those cases in which vagotomy alone was carried out. Twelve operations were done by the transabdominal approach combining other gastric surgery with vagotomy, and ten vagotomies were performed through the transthoracic approach without other surgery. In one instance a transthoracic vagotomy was followed two months later by a subtotal gastrectomy with further resection of the vagus nerves. This case has been included in both series.

In the twelve cases (Table I) subjected to transabdominal vagotomy, all the ulcers were duodenal or marginal, (although this same approach could have been used for gastric ulcers). The indications for operation were obstruction, recurrent hemorrhage and pain. Vagotomy was combined with subtotal gastrectomy six times, with posterior gastro-enterostomy five times and in the other case, the stomach was opened and the pylorus manually dilated. Over a three to eleven month follow-up period in this series of cases, the results were excellent in ten, good in one, and poor in one case. The case with poor results should not have been included, since it was noted at the time of the op-

TRANSABDOMINAL VAGOTOMY—(TABLE I)

Case No.	Age	Sex	Location of Ulcer*	Years of Symptoms	Indication for Operation	Supplemental Surgical Procedure**	Months of Follow-up	Weight Change In Pounds	Complications	Results
1	48	M	D	24	Obstruction	P. G. E.	11	8+	"Spits up"	Good
2	43	F	M	4	Pain	S. T. G.	11	35+	Cardiospasm Diarrhea	Excellent (See Text)
3	52	F	D	19	Obstruction	P. G. E.	10	10+	None	Excellent
4	59	M	D	13	Hemorrhage	S. T. G.	10	15+	None	Excellent
5	34	M	D	8	Obstruction	P. G. E.	10	28+	None	Excellent
6	52	M	D	3	Obstruction	Dilatation of Pylorus	8	8+	None	Excellent
7	46	M	D	30	Obstruction	S. T. G.	6	7+	None	Excellent
8	31	M	D	2	Pain	P. G. E.	6	15+	None	Excellent
9	39	M	D	15	Pain	P. G. E.	5	0	Return of Pain	Poor (Incomplete Vagotomy)
10	38	M	D	12	Pain	S. T. G.	3	0	None	Excellent
11	58	F	D	20	Hemorrhage	S. T. G.	3	5+	None	Excellent
12	59	F	D	14	Hemorrhage	S. T. G.	3	0	None	Excellent

*D—Duodenal M—Marginal S. T. G.—Subtotal Gastrectomy.
**P. G. E.—Posterior Gastro-Enterostomy

eration that the left vagus nerve had not been identified and cut. Our surgeons hope that vagotomy will reduce the incidence of marginal ulcers occurring after posterior gastro-enterostomy and subtotal gastrectomy. It may be significant that nine of our ten vagotomies performed in the past ten months have been by the transabdominal approach. The shortness of the follow-up must be emphasized and it must be pointed out again that the results obtained in this group might well have been just as satisfactory had no vagotomy been performed.

In the ten cases (Table II) subjected to transthoracic vagotomy alone, all the ulcers were duodenal or marginal. Gastric ulcers should not be treated by this operation. Intractable ulcer pain was the main indication for operation. Six of these patients have had excellent results in that they have been able to lead a normal life without symptoms and without dietary restrictions for an average period of more than a year. Although one patient admits he has no ulcer pains, he still follows a diet and states that he is "sorry that he had the operation." Three of these ten patients have come to subsequent major abdominal surgery and these three should be considered in some detail.

Case 2 (Table I and Table II) was a forty-three year old widow who had had ulcer symptoms for four years. In November, 1944, she had had a massive hemorrhage and a partial gastric resection was done after the hemorrhage ceased. She did well for a year, but in November, 1945, abdominal pain recurred. She was admitted on May 29, 1946, and treated by strict medical measures until July 6th when a transthoracic vagotomy was performed for persistent pain. For two months she was free of pain, gained five pounds and no marginal ulcer was visualized on two x-ray examinations. However, on September 9th, she had another massive hemorrhage. The Hollander insulin hypoglycemia test indicated that the vagus section had been complete. On October 26th a marginal ulcer was resected, a subtotal gastrectomy was performed and further dissection and resection of the vagus nerve was accomplished below the diaphragm. After this operation she developed severe cardiospasm (which was successfully controlled by tetraethyl-ammonium chloride) and a severe diarrhea which lasted many weeks. These symptoms gradually subsided and by September 1, 1947, she had gained 35 pounds in weight and was free of digestive discomfort.

Case 6 (Table II) was a fifty-one year old meat salesman who had had progressive ulcer

TRANSTHORACIC VAGOTOMY (TABLE II)

Case No.	Age	Sex	Location of Ulcer	Years of Symptoms	Indication for Operation	Months of Follow-up	Weight Change In Pounds	Complications	Results
1	38	M	D	8	Pain	16	0	Transient Cardiospasm	Excellent
2*	43	F	M	4	Pain	15	35+	Massive Hemorrhage	Second Operation (see text)
3	56	M	D	20	Pain	14	6+	None	Excellent
4	31	M	D	8	Pain	13	10+	Transient Diarrhea	Excellent
5	52	M	D	20	Pain	13	0	"Full Feeling"	Good
6	50	M	D	30	Pain and Obstruction	11	0	Recurrent Ulcer Obstruction	Second Operation (see text)
7	19	M	D	7	Pain	11	10+	None	Excellent
8	53	M	D	10	Pain	11	35+	None	Excellent
9	50	M	D	15	Pain	11	10+	"Excessive Gas"	Excellent
10	35	M	D	5	Pain	5	3+	Massive Hemorrhage	Second Operation (see text)

*Same case as Case 2 in other table.

symptoms in spite of medical treatment. A preoperative x-ray showed some retention, but on September 21, 1946, he was subjected to a transthoracic vagotomy. He was relieved of his ulcer pain and returned to work for several months. Later he developed severe vomiting and x-ray showed nearly complete obstruction. On May 21, 1947, a subtotal gastrectomy was undertaken and an ulcer penetrating to the pancreas was found. Since this operation, he has had no further symptoms and has returned to work.

Case 10 (Table II) was a thirty-five year old milkman incapacitated with pain even while on strict medical treatment. A transthoracic vagotomy was performed in March, 1947. He was completely relieved of all digestive symptoms for about six weeks, but he then had a recurrence of ulcer pain for three days, which was followed by a massive hemorrhage. An insulin hypoglycemia test on this patient was equivocal but indicated that there might have been an incomplete section of the vagus nerve. On May 14 a subtotal gastrectomy was done, and he has since been free of symptoms. At the second operation, performed one month after the hemorrhage, no definite bleeding point was located, and only an old ulcer scar was found.

SUMMARY

1. On the basis of our experience to date, we feel that vagotomy in addition to a posterior gastroenterostomy or subtotal gastric resection gives very satisfactory results in selected cases. However, we still have insufficient evidence that vagotomy will prevent formation of subsequent marginal ulcers. Furthermore, no one knows what may be the very late results of the severance of a major parasympathetic nerve. Improvement may be the result of the supplementary gastric surgery rather than of vagotomy. Transabdominal vagotomy combined with other gastric surgery, must certainly be considered in the stage of clinical experimentation.

2. In our experience, transthoracic vagotomy gives very equivocal results. In only six of our ten patients have the results been entirely satisfactory. In the case of a neurotic patient, the result was debatable. Three patients came to a subsequent subtotal gastrectomy. As yet, we have found no criteria by which we can judge which ulcer patients with pain will be relieved permanently by a simple vagotomy. Until we can predict this, and until we know the very late results in a large series of cases, we expect to employ simple vagotomy with considerable caution.

BIBLIOGRAPHY

1. Dragstedt, L. R., and Owens, F. M.: Supra-Diaphragmatic Section of the Vagus Nerves in Treatment of Duodenal Ulcer. *Proceedings of Society of Experimental Biology and Medicine* **53**:152, 1943.
2. Moore, F. D.; Chapman, W. P.; Schulz, M. D., and Jones, C. M.: Vagus Resection in Peptic Ulcer—Physiological Effects and Clinical Results. *J.A.M.A.* **133**:741, 1947.
3. Grimson, K. S.; Baylin, G. J.; Taylor, H. M.; Hesser, F. H., and Rundles, R. W.: Transthoracic Vagotomy. *J.A.M.A.* **134**:925, 1947.
4. Machella, G. E.; Hodges, H. H., and Lorber, S. H.: The Restoration of Gastric Motility by Urethane of B. Methyl Choline after Section of the Vagus Nerves for Peptic Ulcer. *Gastroenterology* **8**:36, 1947.
5. Lyons, R. H.; Moe, G. K.; Neligh, R. B.; Robler, S. W.; Campbell, K. N.; Berry, R. L., and Rennick, B. R.: The Effects of Blockade of the Autonomic Ganglia in Man with Tetraethylammonium. *American Journal of Medical Sciences* **213**: 315, 1947.
6. Hollander, F. H.: The Insulin Test for the Presence of Intact Nerve Fibers after Vagal Operation for Peptic Ulcer. *Gastroenterology* **7**:607, 1946.
7. Smith, R. C.; Ruffin, J. M., and Baylin, G. J.: The Effects of Transthoracic Vagus Resection Upon Patients with Peptic Ulcer. *Southern Medical Journal* **40**:1, 1947.
8. Walters, W.; Neibling, H. A.; Bradley, W. F.; Small, J. T., and Wilson, J. W.: Favorable and Unfavorable Results of Gastric Neurectomy (Vagotomy) for Peptic Ulcer. *Surgical Clinics of North America* **22**:885, 1947.
9. Lahey, F. H.: A Position on the Employment of Vagotomy in Surgical Treatment of Peptic Ulcer. *Lahey Clinic Bulletin,* **5**:66, 1947.
10. Ruffin, J. M.: Personal Communication, 1947.

DIVERTICULITIS OF THE COLON*

CARRINGTON WILLIAMS, M.D.
and
CARRINGTON WILLIAMS, JR., M.D.
Richmond, Virginia.

In these modern times of rapidly improving methods of treatment, diverticulitis of the colon persistently presents problems which are often very difficult to solve. In its complicated forms, this disease is represented by one of the most trying groups of patients who come into the hands of the surgeon for operative treatment. In spite of wide dissemination of information about the variegated aspects of the disease, the mortality rates for diverticulitis remain unusually high, especially in those patients who must be treated surgically. More complete knowledge regarding the insidiousness of the early stages should appreciably improve the cure rate of colonic diverticulitis, since the prevention of complications is infinitely preferable to the therapy of the later stages.

Diverticulosis is a term proposed independently in 1914 by several writers to describe the incidental finding in x-ray studies of multiple diverticula of the colon. A diverticulum is an abnormal outpouching of the wall of the colon, forming a sac-like structure protruding on the surface of the colon. Diverticulitis results from inflammation in one or more of the diverticula.

While diverticulosis is by definition considered to be of no particular significance—a mere incidental x-ray finding—still cognizance of its existence and correct management of the patient at this early stage may prevent future trouble from complications incident to diverticulitis. Diverticulosis is generally considered to occur in about 5% of all persons over the age of 40 and in about 6% of all patients with abdominal complaints. Various symptoms have been attributed to the presence of colonic diverticula, such as bowel irregularities, abdominal pain, flatulence and melena, but it is doubtful that these would be found unless inflammatory changes had already taken place. In the main, it would seem wise to advise patients in whom diverticulosis is found, without evidence of diverticulitis, to maintain bowel regularity and to avoid foods with high residue content. On such a regimen, it may be possible to circumvent the development of diverticulitis.

As previously stated, diverticulitis occurs when the colonic diverticula become inflamed. Smithwick has estimated that one patient out of ten with diverticulosis will develop diverticulitis, while Rankin and others at the Mayo Clinic placed the incidence at 15-20%.

The etiology of colonic diverticula is unknown, but various factors may be listed as contributing toward their development. These are:

1. The pouches may be congenital malformations.
2. Old age with its accompanying degenerative changes may influence their development.
3. Constipation with attendant increased gaseous distention may be a factor.
4. Excessive obesity and sometimes emaciation seem to predispose towards their development.
5. An inherent weakness of the colon wall may allow herniation of the mucosa through the muscularis. This is thought to occur primarily at the sites of entrance or exit of blood vessels in the bowel wall.
6. There may be a disturbance of the sympathetic nervous system which controls the affected part.

In the past, diverticula were considered to be acquired or congenital, but this distinction is artificial. The fact that most colonic diverticula are discovered only in the latter part of life would seem to lend weight to the theory that they are acquired.

Although the etiology of diverticulosis is unsettled, the causes of diverticulitis are more easily understood. Colonic diverticula occur primarily in the sigmoid colon (60-85%), although they are found in other parts of the colon (excluding the rectum). It is in the left colon that storage and dehydration of the fecal stream take place. Stasis of feces in the diverticula then allows putrefactive bacteria to set up an inflammatory process. Probably more important is the fact that the diverticula become filled with feces so that the neck of the sac is constricted,

*From the Surgical Service of the Stuart Circle Hospital and the Medical College of Virginia Hospital.
Read before the Medical Society of Virginia at Roanoke, October 13, 1947.

resulting in obstruction to the outlet. A combination of these factors then may allow an inflammatory process to develop.

In classifying diverticulitis for a clinical discussion the following outline groups the various types in more or less chronological order.

I. Acute Diverticulitis
  A. Simple
  B. Complicated
    1. Gangrene
    2. Acute perforation
      a. Generalized peritonitis
      b. Abscess formation
    3. Obstruction
    4. Fistula formation
      a. Vesico-colic
      b. Other
    5. Metastatic suppuration
      a. Septicemia
      b. Pylephlebitis
II. Recurrent Diverticulitis
III. Chronic Diverticulitis
  A. Simple
  B. Complicated
    1. Obstruction
      a. Tumefaction
      b. Adhesions
    2. Peridiverticulitis, often with fistula formation
    3. Simulation of other disease.

ACUTE DIVERTICULITIS

Simple acute diverticulitis (called by Morton "diverticulitis with spasm") is often spoken of as "left-sided appendicitis". Symptoms of nausea, vomiting and abdominal pain simulate appendicitis, and if the inflammation occurs in a redundant sigmoid, the findings may even be on the right side. The treatment is medical, and with rest, antibiotic and antispasmodic drugs, and dietary restrictions, the acute attack usually subsides in a few days. The presence on physical examination of an inflammatory mass which subsides under observation is presumptive evidence of diverticulitis, but the only positive method of diagnosis is by roentgenologic studies of the colon.

CASE 1. F.C.N., a 49 year old white male, had always been well. He had an unusual attack of constipation prior to admission, and had had one attack of left lower abdominal pain a few months previously. For four days he had pain in the left lower abdomen and some fever. Physical examination revealed a fixed hard mass in the left lower abdomen, apparently the sigmoid colon enlarged by diverticulitis. He entered the hospital in May 1945 and after a week of rest, liquid diet and sulfadiazine the mass decreased markedly in size. Barium enema two months later revealed a marked diverticulitis of the descending colon and sigmoid with some diverticula rather large and thin-walled. (Fig. 1)

Fig. 1. Case 1, showing many diverticula in descending and sigmoid colon.

COMMENT. In the majority of cases, simple acute diverticulitis will completely subside on the proper medical regime. X-ray examination should be deferred until the acute stage has subsided, unless the diagnosis is in doubt.

When acute diverticulitis is accompanied or followed by complications, surgical intervention is frequently indicated. In some cases conservative, non-operative therapy will suffice. Spread of the inflammatory process from the region of the diverticulum itself or extensive necrosis of the wall of the diverticulum may lead to *gangrene, perforation, obstruction, fistula formation* or *metastatic suppuration.* The appropriate surgical therapy must be applied for these complications, and Jones advocates the simplest type of procedure which can be adopted.

CASE 2. E.C.M., a 34 year old physician, was well until November 1942, at which time he developed severe pain in the lower abdomen suggestive

of appendicitis. At operation the appendix was inflamed mildly on the surface. Exploration revealed thickened, inflamed sigmoid with an area on the right side of the pelvis where the sigmoid was gangrenous. No separate diverticula and no perforations were found. The appendix was removed and a large drain placed in the abdomen down to the gangrenous spot in the sigmoid. Follow-up barium enema showed diverticulitis. (Fig. 2)

Fig. 2. Case 2, showing diverticula and marked spasm in the sigmoid colon.

COMMENT. In this instance the diverticulum was on the verge of perforation, and drainage (as in a case of abscess formation) was elected. As will be pointed out later, fecal fistulae may follow such a procedure.

Acute perforation of an inflamed diverticulum is the most feared of all complications. Fortunately it occurs in only a very few cases (about 2.5% of surgically treated cases). It may result in *generalized peritonitis,* with shock and death, or it may go on to walling off and *abscess formation.* In the first type, with generalized peritonitis, closure of the perforation is sometimes advocated, while others recommend simple drainage. In these days of improved chemotherapy, the use of antibiotics will undoubtedly lessen the high mortality rate. In those cases where abscess formation occurs, spontaneous drainage into the rectum may occur, but more frequently it is necessary to resort to surgical drainage.

CASE 3. S.T.M., a 63 year old minister, complained of violent abdominal cramps coming on during the night, and had some nausea and abdominal distention. There was a history of exploratory laparotomy and appendectomy five years previously. He entered the hospital in September 1940 and shortly before admission an enema produced a large amount of gas and afforded some relief. On the following afternoon, his temperature rose to 102°, and that night he was awakened by violent cramps and soon afterwards developed shock. Exploration revealed foul-smelling grayish fluid in the pelvis and an acutely inflamed and perforated sigmoid. This was exteriorized and an enterostomy performed. Postoperatively the patient went steadily downhill, remained in shock and died after three days.

COMMENT. Fulminating generalized peritonitis in an old man failed to respond to treatment.

CASE 4. R.P.D., a 43 year old railway employee, entered the hospital in October 1944 complaining of right lower abdominal pain for four days. His bowels had moved regularly, but he had had some nausea and vomiting. There were fever, pyuria and left flank pain, and sulfadiazine had been administered prior to admission. X-ray examination of the urinary tract and cystoscopic examination were negative. A mass developed in the left side of the abdomen which was thought to be an abscess secondary to diverticulitis. This mass was drained and a fecal fistula ensued. Barium enema revealed diverticulitis with spasm and a fistula from the bowel into the left flank. This fistula was later excised, and complete recovery took place. (Fig. 3)

COMMENT. Drainage of an abscess secondary to a perforated diverticulitis is often necessary but may be followed by fecal fistula. Excision of the fistula must then be performed.

Obstruction of the colon may result from extensive acute inflammation in an area involved with diverticula. Although obstruction is more prevalent with the chronic type of diverticulitis, it may be quite complete in the acute stage. Conservative treatment including gastro-intestinal siphonage, liquid diet and rest often is sufficient to relieve the obstruction. Colostomy for relief is usually not necessary in acute diverticulitis with obstruction.

CASE 5. L.R.W., a 46 year old claims agent,

gave a history of occasional attacks of abdominal pain and constipation for several years. In January 1941 he developed severe abdominal pain and obstinate constipation. He was hospitalized be-

Fig. 3. Case 4, showing numerous diverticula and spasm throughout the colon and a fistula from the left side.

cause of acute diverticulitis of the sigmoid with obstruction. The obstruction was relieved by conservative measures, but barium enema showed marked diverticulitis with narrowing of the whole left colon, particularly the sigmoid. Repeat x-ray studies showed persistent narrowing of the colon, but the patient was asymptomatic after several months. (Fig. 4)

Fistula formation is one of the common complications found in acute diverticulitis. The close proximity of the sigmoid colon to the bladder, especially in the male pelvis, affords an opportunity for the development of fistulous connections between bladder and colon, and vesico-colic fistula is the type of communication most commonly encountered. The development of such a fistula may be anticipated when a patient with diverticulitis develops urinary symptoms and is found to have pyuria. Prompt attention at this stage may prevent actual development of a fistula. Other types of fistulae which occur in colonic diverticulitis are entero-enteric, enterocutaneous, and fistulae into surrounding soft parts.

CASE 6. G.R.B., 66 year old foreman, had had severe cramp-like abdominal pain and soreness in the groin for a number of years. For one year he had had urinary frequency and was found to have pyuria. Two weeks before entry to the hospital he had more severe pain, followed by marked constipation. In July 1941 examination on admission revealed a large mass in the left lower abdomen extending to the midline above the bladder. Barium enema revealed almost complete obstruction at the upper end of the rectum, with a thin stream of barium going through a narrow channel 8 inches in length. On proctoscopic examination the lesion could not be visualized. He was treated with rest, diet restriction and sulfaguanidine, and improved considerably. The mass decreased in size and the urinary symptoms subsided. Repeat x-ray showed essentially the same picture. Exploration and colostomy were proposed, but the patient refused operation.

COMMENT. The presence of urinary symptoms in a case of diverticulitis suggests the presence of the threat of a vesico-colic fistula, and immediate treatment is indicated to forestall its development or to reduce the infection which is present.

CASE 7. E.C.M., the physician cited in CASE # 2, developed a persistent fecal fistula in the drain-

Fig. 4. Case 5, showing marked narrowing of the bowel and large diverticula on the left side of the colon.

age tract created when drains were placed down to the gangrenous spot in the sigmoid. In October 1944, approximately two years after the first operation, the sinus tract was explored, a fistula in the sigmoid closed, and the tract excised. Complete healing has resulted.

COMMENT. Drainage of an abscess or a gangrenous area in the bowel may result in fecal fistula. This must be eradicated by closing the area in the colon and excising the sinus tract or else by removing the involved segment of bowel, including the entire fistula. The latter procedure is nearly always necessary when vesico-colic fistulae are present.

Persistent contamination from an area of acute diverticulitis may lead to *metastatic suppuration* with septicemia or pylephlebitis as the result.

RECURRENT DIVERTICULITIS

Failure on the patient's part to follow the proper regime or failure on the doctor's part to pursue a vigorous program of therapy for acute diverticulitis often leads to recurrent attacks of acute inflammation. These patients can be managed medically unless complications arise demanding surgical intervention. On the other hand, Smithwick advocates resection of the involved segment of bowel for recurrent diverticulitis. In spite of the relatively high mortality rate in resections for diverticulitis, he found less failures from operative treatment and lower late mortality in the resected cases.

CHRONIC DIVERTICULITIS

The problem of chronic diverticulitis is one which is concerned not so much with emergencies or with life-saving surgical intervention, but rather it is one which presents the difficulty of increasing intestinal obstruction as scar formation and persistent inflammation are encountered.

The *simple form of chronic diverticulitis* can be handled adequately by conservative therapy akin to that for the acute type—i. e., rest, bland diet, antispasmodics and sulfa drugs.

When *chronic diverticulitis* is accompanied by *complications* requiring operative therapy, they present themselves usually in the guise of intestinal obstruction, and often carcinoma is suggested. *Obstruction* results from increasing tumefaction produced by chronic inflammation with scarring and from kinking around adhesions. When the obstruction is severe enough and persists despite adequate medical treatment, resection of the obstructed area preceded by decompressive colostomy must be carried out.

CASE 8. C.N., a 45 year old male, developed left sided abdominal pain and fever. A mass was found in the left lower quadrant and the patient was sent to the hospital. Barium enema revealed an extensive defect in the descending colon and diverticulosis. He developed constipation. Resection of the colon was carried out in May 1945, using the Rankin clamp, and at the time of operation carcinoma could not be ruled out by the gross appearance. The pathological examination however showed diverticulitis without cancer. Three months later the colostomy was closed, and uneventful recovery has ensued. (Fig. 5)

Fig. 5. Case 8, showing diverticula and obstructing lesion in the left colon,

COMMENT. In cases of chronic obstruction, where cancer cannot be ruled out and where the obstruction is progressing unfavorably, resection of the involved segment of bowel is indicated. When the obstruction is complete, decompression by colostomy, followed later by resection, should be performed. Even at operation it is often difficult to distinguish inflammation from cancer.

Peridiverticulitis, with inflammation of surrounding viscera and even fistula formation, is not infre-

quently found as a complication of chronic diverticulitis. Fistulae are more apt to develop in the acute attacks with the more fulminating inflammatory reaction. Stone advocates operation upon those cases under conservative therapy who develop urinary symptoms, in an effort to forestall the development of a vesico-colic fistula.

Simulation of other disease by diverticulitis in the chronic stages often presents problems which are difficult to deal with. Those diseases which most commonly are mimicked by diverticulitis are:

(1) Appendicitis
(2) Tumor of the ovary
(3) Pelvic abscess (tubo-ovarian)
(4) Carcinoma of the colon.

Quite frequently the gynecologist is completely fooled by colonic diverticulitis, and the true diagnosis is discovered only at operation. As Morton has pointed out, drainage of a pelvic abscess by colpotomy sometimes is followed by formation of a fecal fistula, which clears up only with resection of the involved sigmoid colon. Carcinoma of the sigmoid colon is most closely simulated by chronic diverticulitis, and this will be further discussed.

Differentiation from Carcinoma

To distinguish diverticulitis from carcinoma of the colon is almost impossible sometimes without operation, and even then on occasions doubt still remains about the correct diagnosis. From the x-ray standpoint, it is well to consider that diverticulitis rarely exists without demonstrable diverticula. Furthermore the involved segment is usually longer in diverticulitis than in cancer. Sigmoidoscopic examination is of limited value in the demonstration of diverticulitis or its differentiation from cancer. However Buie listed the following points as evidence for diverticulitis:

(1) Limited mobility of a segment of bowel which normally is freely movable;

(2) Angulation of the bowel which occurs near the site of diverticular involvement;

(3) Contracture of the lumen due to surrounding inflammation;

(4) Sigmoidal sacculation, formed by alternation of diseased and normal mucosal segments;

(5) Visualization of a diverticulum.

Whatever the criteria for differentiation, the diagnosis is particularly difficult with the chronic obstructing lesions, and it must be considered that these patients all fall into the so-called cancer age group. Gross bleeding from the rectum is another point which makes the diagnosis even more difficult. It was formerly regarded that rectal bleeding was very frequently found with carcinoma but rarely accompanied diverticulitis. Morton, Stone, and Bockus all point out the fact that gross bleeding is not infrequently associated with diverticular disease, and textbooks which formerly held that bleeding was rare in diverticulitis now say that it occurs in up to 20% of the cases. For safety's sake it would seem that the proper attitude would be to explore the patient in whom reasonable doubt existed, especially since most of the chronically obstructed cases must sooner or later be resected. The association of cancer and diverticulitis is not frequent, but it must be remembered that except for the rectum the sigmoid is the most common site for cancer of the colon, and diverticulitis also most often is seen in the sigmoid.

Illustrative of the confusion which may occur in the differential diagnosis between diverticulitis and cancer is the following case.

CASE 9. R.A.P., a 70 year old single white female, had had an x-ray diagnosis in April 1940 of extensive diverticulosis of the colon, particularly the sigmoid. In March 1946 she had an acute attack of abdominal pain, constipation and fever of a week's duration. She had had similar attacks in the past. There was a tender mass in the left lower abdomen. On conservative treatment this attack subsided, but she was seized again three months later, and this time had urinary frequency. She began to pass gas through the urethra. Cystoscopy showed what appeared to be a vesico-colic fistula. X-ray examination of the colon showed an obstructing lesion in the sigmoid which was interpreted as being due to inflammation. At operation in August 1946 the bladder fistula was excised and when the sigmoid was mobilized it was seen to contain a colloid growth which had invaded the pelvic wall. The lesion was widely excised using the Rankin clamp, and pathological examination revealed adenocarcinoma, Grade II. The colostomy was subsequently closed, and the patient has done well since then.

COMMENT. Here, a patient who was known to have diverticulosis had recurrent attacks of what appeared to be diverticulitis and after several years developed a vesico-colic fistula. Barium enema showed obstruction in the sigmoid which was con-

sistent with diverticulitis, and yet at operation a carcinoma was found. It is possible that the carcinoma developed as a result of the chronic inflammation in the area involved by diverticulitis, but this association is not the usual thing, and it is more likely that this was a coincidental occurrence.

TREATMENT

From the foregoing discussion, it can be deduced that in simple uncomplicated diverticulitis the proper treatment is medical. Brown found that it was impossible to predict which cases of diverticulitis would need surgical treatment and which would get along well on a medical regime. In those cases operated upon, medical therapy was a complete failure in the majority of instances. Of 92 cases operated upon over a 10 year period, 54 or over one-half had had symptoms for less than one year, and operation was made imperative by the rapid progression of the disease. However, it has already been pointed out that of all cases of diverticulosis only 10-20% will develop diverticulitis, and only 10% of the cases of diverticulitis will require operative intervention. Thus this is primarily a disease to be handled medically. The proper regime should consist of absolute rest (bed rest until all symptoms and signs have disappeared), heat to the abdomen (including diathermy and Elliott therapy), restricted diet, and mild laxation. To this can be added the use of those sulfa drugs which sterilize the bowel (sulfaguanidine, sulfasuxidine, and sulfathalidine) and of penicillin. Brown states that in patients so treated 63% will be cured and the other 37% materially helped.

Operative treatment must be applied to the complicated cases and those which fail under adequate medical therapy. The indications for surgical intervention are:

1. Perforation with peritonitis.
2. Abscess formation.
3. Intestinal obstruction.
4. Actual or impending fistula formation.
5. Oft-recurring diverticulitis.
6. Indistinguishability from cancer.

The operation of choice for each of these complications is determined by the type of case, but as Jones has pointed out, the simplest is the safest procedure.

For acute perforations with *abscess formation* and for *gangrene of the bowel,* the treatment of choice is drainage, and if fecal fistula persists this can be attended to later. When perforation leads to *generalized peritonitis,* a grave situation is at hand and treatment can be either non-operative, with fluid replacement and massive doses of penicillin, or operative, with drainage, depending on the case. *Vesico-colic* fistula is one of the most troublesome complications. Occasionally this can be cured by putting the bowel completely at rest with colostomy, after which the fistula may close spontaneously. If this is not the case, the treatment of choice is resection of the involved area in the sigmoid. Simple excision of the fistula and closure of the perforation in the colon rarely cure vesico-colic fistulae. Resection of the bowel is also indicated in cases of *chronic obstruction, recurrent diverticulitis* and *inability to differentiate from cancer.* When obstruction is present, colostomy should be performed, and if the involved segment remains obstructed after several months of rest with the colostomy, resection should be undertaken. The type of resection to be performed must be decided individually, but all carry a fairly high mortality rate. On the other hand, there are fewer failures to cure and the late mortality rates are lower in the resected cases. The obstructive (Rankin) type of resection is the safest method, taking into consideration the operative risk and the amount of inflammation likely to be present.

MORTALITY AND PROGNOSIS

Although the mortality ratio in the surgical treatment of diverticulitis remains high, the general outlook has become much more hopeful since the institution in recent years of modern chemotherapy. Prior to 1939 the overall surgical mortality was between 15% and 20%. Smithwick reported that the mortality rate from resection was 17.1%, but in these cases the cure rate was 76.1% and the late mortality from the disease only 3.7%. Colostomy alone failed to cure 45% of his series. Brown reporting 191 cases treated at the Mayo Clinic found a total surgical mortality of 18.3%, with failure to cure in 17.8%. This figure was later lowered to 14.7%, and Pemberton has recently reported that the mortality rate from all surgical procedures in diverticulitis at the Mayo Clinic has now been reduced to 4.2%. He attributes this entirely to the use of sulfonamide compounds and penicillin, resulting in marked reduction in post-operative infections. The addition of streptomycin to the presently available

armamentarium may effect even further reduction in the mortality from the surgical treatment of diverticulitis.

SUMMARY

Diverticular disease of the colon is rare before the age of 40, but occurs in 5% of all people over 40 and in 6% of patients with abdominal complaints. Diverticulosis is in itself a harmless condition and is usually an incidental x-ray finding. However, failure to institute proper medical care may allow inflammatory changes to occur in the diverticula. Diverticulitis develops in about 10-20% of the cases of diverticulosis, and about 10% of these patients eventually need surgical treatment.

Medical treatment, consisting of rest, antispasmodic drugs, dietary restriction and drugs to sterilize the intestines, is sufficient to manage simple uncomplicated diverticulitis. The diagnosis in unoperated cases cannot be properly made without x-ray confirmation.

Surgical treatment should be reserved for those cases in whom complications arise. The indications for operative intervention are:

(1) Perforation with peritonitis,

(2) Abscess formation,

(3) Intestinal obstruction, particularly in the chronic cases,

(4) Actual or impending fistula formation, particularly vesicocolic fistulae,

(5) Indistinguishability from cancer.

The type of operation should be selected for each case individually. Abscesses should be drained. Perforations with peritonitis require drainage or conservative treatment with intestinal suction and massive penicillin therapy. Colostomy should be performed in cases of chronic obstruction and of fistula formation. Resection is reserved for obstructed cases (preceded by colostomy for decompression), for vesico-colic fistulae, and for those instances where carcinoma of the colon is suspected.

The association of diverticulitis and cancer is not frequent, but both are accompanied by bleeding and both occur most commonly in the sigmoid (if the rectum is excluded). When carcinoma cannot be ruled out resection of the involved segment is indicated.

The mortality rate for the operated cases has been reduced from around 18% prior to 1939 to around 4% since the institution of sulfonamide compounds and penicillin. Colostomy alone fails to cure about half the cases in which it is employed without further operations. The addition of streptomycin to the drugs now employed may cause further reduction in the surgical mortality from diverticulitis.

REFERENCES

1. Bockus, H. L.: "Gastro-Enterology", **11**, W. B. Saunders Co., Philadelphia, 1943.
2. Brown, P. W.: "The Treatment and Prognosis of Diverticulitis of the Colon." *Am. J. Surg.* **46**:162, 1939.
3. Buie, L. A.: "Diverticula of the Colon." *New Eng. J. Med.* **221**:593, 1939.
4. Jones, T. E.: "Diverticulitis and Diverticulosis of the Colon." *Surg. Clin. N. Am.* **19**:1105, 1939.
5. Laufman, H.: "The Surgical Management of Diverticulitis of the Colon." *Internat. Abstr. Surg.* **73**: 222, 1941.
6. Morton, J. J.: "Diverticulitis of the Colon." *Ann. Surg.* **124**:725, 1946.
7. Pemberton, J. deJ., Black, B. M., and Maino, C. R.: "Progress in the Surgical Management of Diverticulitis of the Sigmoid Colon." *Surg., Gynec. and Obst.* **85**:523, 1947.
8. Rankin, F. W., Bargen, J. A., and Buie, L. A.: "The Colon, Rectum, and Anus." W. B. Saunders Co., Philadelphia, 1932.
9. Rankin, F. W., and Brown, P. W.: "Diverticulitis of the Colon." *Surg., Gynec. and Obst.* **50**:836, 1930.
10. Schatzki, R.: "The Roentgenologic Differential Diagnosis between Cancer and Diverticulitis of the Colon." *Radiology* **34**:651, 1942.
11. Smithwick, R. H.: "Experiences with the Surgical Management of Diverticulitis of the Colon." *Ann. Surg.* **115**:969, 1942.
12. Spriggs, E. I., and Marxer, O. A.: "Multiple Diverticula of the Colon." *Lancet* **1**:1067, 1927.
13. Stone, H.: Discussion of Paper by Morton (6).

805 West Franklin Street

DISCUSSION

DR. BENJAMIN W. RAWLES, JR., Richmond: It is timely that the Doctors Williams have brought this subject to our attention. They have concisely, but thoroughly, presented the many aspects of the subject. The problems of diverticulitis of the colon and the complications of the disease are not as difficult from the standpoint of surgical management as they once were for a number of reasons. We are now able to combat and control infection more successfully with modern chemotherapeutic agents and antibiotics. The surgeon also is better able to maintain his patient in nearly normal physiological balance with infusions of water, electrolytes, proteins, and vitamins, and transfusions of plasma and whole blood. Improved

surgical technique and modern anaesthesia have also been of inestimable value.

Perforation of a diverticulum with generalized peritonitis still carries a high mortality, as was illustrated in the case report, in spite of the improvements in surgical therapy that were noted above. It is possible, however, today to radically extirpate the primary pathology in the chronic forms of the disease with greater safety to the patient. There was a time when surgical intervention other than to do a proximal colostomy carried an almost prohibitive mortality. Pemberton's recent mortality figures from the Mayo Clinic in the management of chronic diverticulitis by radical surgery are most encouraging and indicate what can be expected in the future from the surgical removal of segments of the colon involved in chronic diverticulitis.

Proximal colostomy preliminary to resection by exteriorization or resection and immediate end-to-end anastomosis still has a very important place in the surgical management of chronic diverticulitis with or without obstruction or with or without fistulae formation.

DR. WILLIAMS, SR., closing discussion: Perhaps the most important thing in connection with diverticulitis of the colon is for the physician to have in mind the frequency of diverticulosis and to consider the possibility of this disease in patients complaining of constipation and pain in the left abdomen. The complications should also be remembered, particularly the attachment of the inflamed sigmoid to the urinary bladder. Not infrequently the presenting symptom of bladder irritation will lead one to the discovery of inflamed diverticula. The patients for whom operation is necessary make a small percentage of the total number of cases seen. As brought out in the paper and emphasized by Dr. Rawles the mortality rate has improved markedly since the advent of the new drugs, and the number of cases developing complications which require surgical intervention will certainly be reduced by the use of these drugs.

New Books,

Recently received at the Library of the Medical College of Virginia, which are available to our readers under usual library rules, are as follows:

Amer. Assoc. for the Advancement of Science—Approaches to tumor chemotherapy.
Bauer, Bond and others—Teaching Psychotherapeutic medicine.
Bergey's manual of determinative bacteriology. 6th ed.
Beveridge—The cultivation of viruses and rickettsiae in the chick embryo.
Blau—The master hand: a study of the origin and meaning of right-and left-sidedness and its relation to personality and language.
Clarke-Kennedy—Medicine. Vol I.
Burnet—The background of infectious diseases.
Gordon and others—The biology of melanomas.
Grüneberg—Animal genetics and medicine.
Hellebrandt and Duvall—Organizing for clinical procedure in physical therapy.
Hill and Dameshek—The Rh factor in the clinic and the laboratory.
Himsworth—The liver and its diseases.
Joslin—Treatment of diabetes. 8th ed.
Markley—Fatty acids.
Ogden—The kingdom of the lost.
Troncoso—Gonioscopy.
Trueta and others—Studies of the renal circulation.

Nurses Handling Streptomycin May Develop Sensitivity to Drug.

Nurses, pharmacists, laboratory technicians and others concerned with the administration or handling of streptomycin are in danger of developing a sensitivity to the drug, three doctors state in the February 28 issue of *The Journal of the American Medical Association.*

The writers are Solomon M. Rauchwerger, M.D., Frederick A. Erskine, M.D., and Walter L. Nalls, M.D., from the Department of Medicine and Surgery, Veterans Administration, Oteen, N. C. The report that when over a period of 20 months streptomycin was administered to 233 patients in the tuberculosis hospital at Oteen, N. C., six nurses developed such a sensitivity. In every case the first symptom was a rash on the hands, followed by intense itching. Five of the six nurses also showed involvement of the area around the eye socket. Pyribenzamine proved more effective than benadryl for relief of symptoms.

RHINOSPORIDIOSIS OF THE CONJUNCTIVA—CASE REPORT*

MEADE EDMUNDS, M.D.,
Petersburg, Virginia,
and
REGENA BECK, M.D.,
Richmond, Virginia.

We believe this is the first case of rhinosporidiosis to be reported in the State of Virginia and the sixth case involving the conjunctiva to be reported in the United States. Because of its infrequency and the lack of knowledge concerning the disease, we feel justified in reporting this case, reviewing and briefly summarizing the literature, even if it is so rare, that it might be considered a medical curiosity. It would appear that the total number of cases reported from all countries does not exceed two hundred, and the number reported in North America would not exceed eighteen or twenty.

Rhinosporidiosis is a local fungus infection of the mucous membranes caused by Rhinosporidium seeberi. The mode of infection is not known. Because of its predilection for the mucous membrane of the nose and conjunctiva, some have thought it might be air or water borne, but this has not been proved, and experimental evidence has been negative; neither has any one been able to transfer the organism to monkeys, rats, mice, guinea-pigs, or rabbits.

Its geographic distribution is interesting. The first cases were studied by Seeber in Argentina in 1895, but most of the cases have been reported from India and Ceylon. Additional cases have been reported from South Africa, Uruguay, Philippine Islands, and the United States, and one case of conjunctival involvement has been reported from Europe.

The disease is confined mostly to the male sex, and it occurs spontaneously in the following animals: horses, mules, and cattle; and, strangely enough in these lower animals, practically all of them have been males. It is believed that human infection is gotten from infected animals, namely, horses, mules, and cattle, because the same organism has been recovered from the noses and nasal polypi of the above mentioned animals. More cases have been reported from Texas than any other State and, since this is a live-stock state, an animal reservoir may be responsible.

The most common site of infection is the anterior nares. It is also found in the conjunctiva, larynx, uvula, aural meatus, lachrymal sac, and penis. It is believed that lesions occurring in remote sites from the nose or eye may be due to autoinoculation. The usual nasal lesion is a single polyp with a distinct pedicle, though it may be sessile or partially pedunculated. There are at times multiple polypi, and their shape, size, and consistency will vary with the size of the nostril and the duration of the infection. The growth is soft and vascular, somewhat like exuberant granulation tissue, and varies in color from pink to purple red. It is much more vascular than the ordinary nasal polyp and may bleed freely when touched or probed. On close examination, the surface of the growth is seen to be covered with minute white granules, and this should always lead one to suspect sporidial infection. These white granules are the sporangia. The disease apparently causes few, if any, systemic symptoms—only the local symptoms that one would expect from nasal blocking due to a polyp, and perhaps frequent nosebleeds.

The first report of Rhinosporidium seeberi infection of the conjunctiva occurring in North America was reported by Anderson and Byrnes[1] in 1939, but infections of the nose with this organism had been previously reported in this country. The first case ever to be reported in North America was by Wright[2], of Tennessee, in 1907. Since 1939, four other cases of Rhinosporidiosis involving the eye have appeared in the literature—Those of Griffey[3], Elles[4], Barnshaw and Read[5], and Arnold and Whilden[6].

The case which we now wish to report, infection of the conjunctiva, would appear to be the sixth one to be recorded. J. H., a typical American white boy was brought to my office (Edmunds) and stated that he had a growth on his left eyelid. He was twelve years old, appeared perfectly healthy, and had few or no complaints except at

*Read before the annual meeting of the Virginia Society of Ophthalmology and Oto-Laryngology, at Virginia Beach, May 10, 1947.

times a mild irritation of the left eye and a sensation as if something was rubbing against it. The external appearances of both eyes were normal, and nothing could be seen until the lower lid was everted and there was a reddish partially sessile growth originating from the conjunctiva of the lower lid in its outer third. The surrounding conjunctiva was not injected; the growth was painless and measured about 6mm. by 6mm. by 8mm. The father stated that the growth had been removed on two previous occasions but had returned. The appearance of the lesion looked somewhat like granulation tissue or a granuloma, such as is often seen from a ruptured infected chalazion; but, on the other hand, it did not look quite like it, and feeling that this might be something unusual or different, I thought it should be examined microscopically after its removal. I was thinking in terms of a malignancy, even though the age of the patient would have been against it, and certainly not thinking in terms of a sporidial infection, because at that time I had no knowledge of any such type of infection occurring in either the eye or the nose.

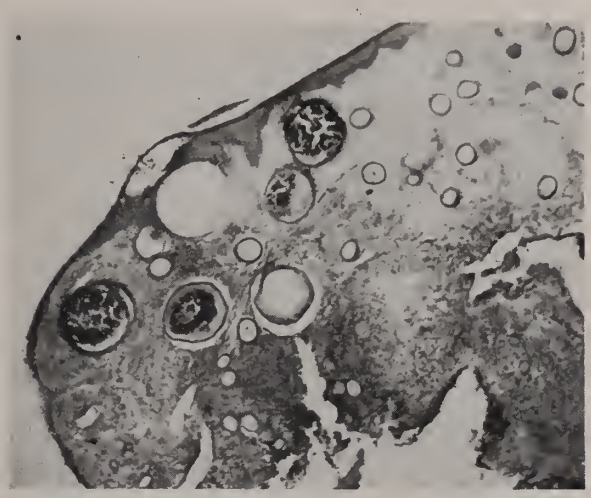


Fig. 1.—Approximately forty trophic forms of various sizes, 40 to 150 microns in diameter, can be seen in this slide. There are six sporangia present, four of which contain spores. One mature sporangium is seen at the surface discharging spores through the epithelial layer.

There appears to be no specific treatment for this condition. Removal of the polyp from the nose by snare is usually followed by recurrences; however, complete excision and removal of the growth, by whatever means one prefers, followed by cauterization of the base with the electric cautery would seem to be the best treatment so far available.

While this disease appears quite rare, perhaps more cases would be found and diagnosed if more nasal polypi were examined microscopically, and we should not lose sight of the fact that sporidial infection may be the etiological factor in some of the nasal polypi which we are seeing.

For those interested in a thorough study of this condition, reference is made to an exhaustive report by Elles[4] and also one by Pasternack and Alexander[7]. Pasternack and Alexander, in their excellent article appearing in the *Archives of Oto-Laryngology*, June, 1938, summarize the essential features as follows:

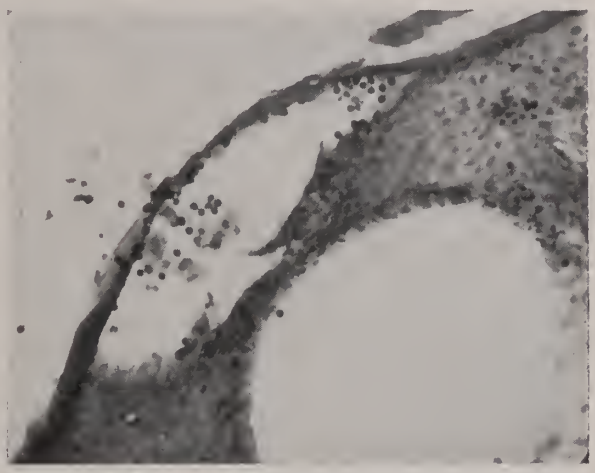


Fig. 2.—This slide is a high magnification of the mature sporangium discharging spores through the epithelial layer.

"Rhinosporidiosis is a fungus infection primarily of the nasal mucous membrane in man, cattle, and equines. It produces a polypoid growth resembling granulation tissue which bleeds readily on slight manipulation. Infections of the conjunctiva, lachrymal sac, ear, pharynx, uvula, larynx, penis, and skin have been described. These, with few exceptions, represent autoinoculation with infectious material from the nose. The disease has been reported from India, Ceylon, the Philippine Islands, Africa, Europe, South America, and North America (United States). The source of infection is unknown. The disease may be water borne. The disease prevails in young males Epistaxis, progressive obstruction, and chronic nasal catarrh are the chief symptoms. An early single growth in an accessible situation is satisfactorily treated by excision, provided the surrounding healthy tissue is removed. Multiple growths and an inaccessible growth require extensive operations with the electric cautery. The growth has a great tendency to recur."

PRESENTATION OF SLIDES AND DISCUSSION BY DR. BECK

The specimen received from Dr. Meade Edmunds of Petersburg, Virginia, was from the conjunctiva of J. H., and was preserved in 5% formalin. The specimen measured 6x6x8 mm., was grayish in color and had distinct papillary structure. A rapid frozen section stained with Terry's polychromenethylene blue showed a papilloma with very little papillary branching or crypts. The striking finding was the presence of numerous round, thick rimmed, double contoured, sharply defined cystic bodies of various sizes in the stroma of the growth. There was a moderate round cell infiltration around some of the medium sized cystic bodies and the stroma of the polyp was moderately vascular. These cystic bodies are the trophic stages and immature and mature sporangia of Rhinosporidium seeberi. The histologic picture is striking and diagnostic.

The details of the youngest forms, the spores, are best studied with the oil immersion, although they can be readily seen with the high power. They are round or oval cells 6 to 9 microns in diameter (approximately the size of a red cell) with a relatively thick, clearcut, refractile wall, vacuolated cytoplasm, a distinct vesicular nucleus and karyosome. These spores can be seen being liberated from the sporangium, anywhere in the interstices of the stroma of the polyp, occasionally in the macrophages and in the epithelium. As the organism enlarges the cytoplasm becomes heavily granular. When it reaches a diameter of 40 to 50 microns, nuclear division begins. The daughter nuclei repeatedly subdivide, while the entire cyst continues to increase in size. Cytoplasmic division finally occurs at a cyst diameter of about 120 to 140 microns, and there results a sporangium filled with a great number of spores. The spores expand and distend the sporangium to a final diameter of 250 to 300 microns. There may be as many as 1600 spores in a mature sporangium.

In about the middle of the developmental period of the sporangium there is an annular thickening of the wall about a point that is destined to become a pore through which the spores will be discharged after maturation. This pore is directed toward the surface of the polyp. The spores nearest the pore enlarge and differentiate first; those at the opposite side remain small and immature and lie in mucoid matrix. The individual spores are easily seen on this slide. These spores may be found in the tears and in nasal secretions.

The entire cycle of development within the human host is shown in these two slides There may be other cycles in other hosts or the discharged spores may develop into encysted forms to be carried by some means to a new host. How infection occurs is not definitely known.

The exact classification of Rhinosporidium has not been determined. Some authors say it belongs to the Sporozoa; others, that it should be classed with the Phycomycetes. No flagellated or other active motile stage of Rhinosporidium is known. It has not been possible to grow this organism on artificial media. All experimental efforts to inoculate animals have failed.

There are only about 200 cases of Rhinosporidiosis reported from widely separated parts of the world. Probably one reason so few cases have been reported is that polypoid growths of the nasal mucous membrane, conjunctiva, and pharynx are so common and their association with non-specific types of chronic inflammation is so generally accepted that they rarely receive more than routine attention and are rarely submitted to the laboratory for microscopic study.

BIBLIOGRAPHY

1. Anderson, W. B., and Byrnes, T. H.: *American Journal Ophthalmology*, 1939, **22**:1383.
2. Wright, J.: *New York Medical Journal*, 1907, **86**:1149.
3. Griffey, E. W.: *Amer. Jour. Ophthal.*, **22**:1389.
4. Elles, N. B., *Archives of Ophthal.*, June, 1941, **25**:969-991.
5. Barnshaw, H. D., and Read, W. T., Jr.: *Arch. of Ophthal.*, 1940, **24**:357.
6. Arnold, R., and Whildin, James: *Amer. Jour. of Ophthal.*, October, 1942, 1227.
7. Pasternack, J. G., and Alexander, C. S.: *Archives of Oto-Laryngology*, June, 1938, **27**:746-765.

THE TREATMENT OF PEPTIC ULCER*

GUY WINSTON HORSLEY, M.D.,
Richmond, Virginia.

In order to better understand the rationale of treating stomach disorders, it might be well to briefly review the anatomy and physiology of the stomach and duodenum. The stomach is divided for physiological observation into the body and the pyloric end of the stomach. These two are separated by a notch at the lesser curvature called the incisura angularis, and a line drawn from this point to one opposite on the greater curature divides the two portions of the stomach. On the right of this line is the pyloric portion of the stomach, and to the left is the body. Both the pylorus and body are divided by some observers into subdivisions. The pylorus is often divided into the vestibule and the antrum which have essentialy the same function, and such subdivision seems unnecessary. For practical purposes the pyloric portion should consist of the antrum and the pyloric canal. The body is divided into several sections. That portion of the stomach just above a line drawn from the esophagogastric junction to the greater curvature is called the fundus and is usually filled with gas when viewed by x-ray, while the area immediately around the esophageal opening is the cardiac area.

The stomach wall is composed of a serous, muscular, submucous and mucous layer. The serous coat is derived from the peritoneum and supports the larger blood vessels and nerve trunks which supply the stomach. The muscular coat contains three layers. The thin longitudinal fibers form the outer layer, while the middle and heaviest layer is made up of the circular muscles. These circular fibers are more prominent in the pyloric end of the stomach, and it is from these that the pyloric sphincter arises. Hypertrophy of these fibers in the pyloric sphincter produces congenital pyloric stenosis in the new born. The oblique fibers are more numerous toward the fundus of the stomach where they form a third muscular layer which is the inner layer of the muscular coat.

The stomach is lined throughout with tall columnar epithelium. The corium of the mucosa is composed of closely packed tubular secreting glands which open on the surface with wide mouth crypt-like ducts. These columnar cells contain mucin in the form of granules and globules, the chief function of which is the secretion of mucin which acts as a protective and lubricating agent. The gastric glands vary in different portions of the stomach and are known as the fundic glands, the pyloric glands, and the cardiac glands. The pyloric and cardiac glands secrete chiefly mucin and alkaline substances while the fundic or glands of the body are the ones which secrete pepsin and hydrochloric acid. It is well known that the dominating factor in the development of gastric and duodenal ulcers is the direct result of the pepsin and hydrocholoric acid content of the gastric juice, and therefore the term "peptic ulcer" for these ulcers which develop in the stomach and duodenum is well chosen.

The external nerve supply is from both sympathetic and parasympathetic nerves. Within the stomach are the myenteric or the Auerbach's plexus, which lies between the longitudinal and circular muscular coats and the Meissner's plexus which is directly under the mucosa. The extrinsic nerves of the stomach are from the vagus and sympathetics. The vagus carries mainly stimulating fibers. Vagus stimulation produces more secretion from the glands along the lesser curvature while the stimulation of the sympathetic produces secretion of alkaline from the pyloric and cardiac glands.

It is well to note that the stomach of an experimental animal can be separated entirely from its external nerve supply and that after a few weeks will re-adjust itself fairly well, so it may function under its own local nerve supply. Sham feeding produces no secretion when the vagus has been completely divided; but meat, meat extracts, and breakdown products of protein, such as peptone and proteosis produce secretion by direct contact with the gastric mucosa even after vagus resection. The food in the stomach apparently causes the local stimulus which produces an increased secretion. The amount of secretion will vary depending upon the type of food put into the stomach, which

*From the Surgical Department, St. Elizabeth's Hospital.

Read before the 100th Meeting of the Medical Society of Virginia at Roanoke, October 13, 1947.

shows that the secretion is not merely dependent upon pressure on the mucosa or distention of the gastric walls.

Hughson has shown that a marked reflex pylorospasm may be induced by injury to the peritoneum, but that section of the vagus nerve just below the diaphragm or along the lesser curvature of the stomach will relieve this pylorospasm as the reflex arc is broken. This first observation explains the frequent nausea and vomiting in intra-abdominal infections in which the peritoneum is involved as is found in acute appendicitis, peritonitis, and so forth.

The actual secretions of the stomach, strange to say, have but little to do with most gastric symptoms. Achlorhydria, if it exists for a long time, may cause fermentation in the stomach and duodenum, with increased bacteria flora because the hydrocholoric acid is bactericidal, but even then with a careful diet the symptoms are comparatively slight. Routine examination of the stomach contents, even in younger people, has shown that there is a larger percentage of individuals with low acid or even achlorhydria than has been usually supposed. When the achlorhydria is intrinsic in the stomach, the treatment by giving hydrochloric acid is obvious. When, however, it is due to other causes, such as cancer or a diseased gallbladder, removal of this cause must be the first therapeutic procedure.

Of the different forms of indigestion, probably the most characteristic is the so-called "hunger pain". This comes on usually with clock-like regularity two or three hours after a meal when the stomach is almost empty. Its etiology has never been satisfactorily ascertained, though Cannon has demonstrated that the direct cause of hunger pain is excessive gastric contraction. It is known, however, that this usually occurs when the value of the hydrochloric acid in the stomach is high, after the food has been emptied, and the normal secretion of hydrochloric acid continues. Hunger pains may be due to the action of the acid upon the tissues of the peptic ulcer which have been already sensitized by the inflammation, though a wound in the stomach which exposes a raw surface does not usually produce this type of discomfort. At any rate, efforts which tend to lower the acidity of the gastric juice, such as giving bland food, alkalies, or a Sippy diet, usually relieve these symptoms.

Hunger pains are not always due to peptic ulcer. W. H. Higgins reviewed 162 consecutive abdominal operations at St. Elizabeth's Hospital in Richmond, Virginia, in which there seemed to be some symptoms of disturbed digestion. Of these, there were 33 cases of chronic cholecystitis of which five, or 15.4 per cent gave a definite history of food relief. Of 47 cases of chronic appendicitis, seven, or 17.5 per cent showed food relief. In 34 cases of combined chronic cholecystitis and chronic appendicitis, three or 8.6 per cent gave a history of food relief. "The interesting feature of this summary is the relative frequency of hunger pains in gallbladder, appendiceal and duodenal infections. Relief of pain by ingestion of food has been generally recognized as a cardinal symptom of duodenal ulcer, and has served as one diagnosis of this condition. It is rather remarkable that slightly less than one-half of the ulcer cases in our series gave this history. We may assume from this low percentage that a duodenal lesion alone is not the sole provocative factor, and it becomes more apparent when we find the same symptoms in from eight to seventeen per cent of the chronic gallbladder and appendiceal cases."

As for the medical treatment, the diet for a peptic ulcer is quite well known. The use of bicarbonate of soda, except in very occasional instances, should be avoided. The frequent taking of bicarbonate of soda often causes an alkalosis while it actually increases the secretion of the stomach and may eventually produce a gastritis. The better treatment is with the use of foods, using the Sippy diet as the basis and modified to suit the case. It is important that the food be soft and smooth, as it has been shown experimentally that rough food in artificially created ulcers in a dog prolongs the healing, so such foods as lettuce, celery, corn, cabbage, and so forth, should be avoided. In the administration of alkalies, however, the best medicine for continuous use is usually some form of carbonate of magnesia or a powder or tablets composed of calcium carbonate, magnesium carbonate and bismuth subcarbonate. These may be taken almost indefinitely without injury to the gastric mucosa and with but little danger of alkalosis. Preparations or derivatives of belladonna are often helpful.

In addition to diet and medications, avoidance of tobacco and alcoholics is important. The ulcer individual must be educated to live less strenuously with as little nerve tension and worry as possible, and there should be satisfactory rest periods both at night and during the day.

Peptic ulcers both gastric and duodenal are more frequent in males than females. Recently Crider and Walker reported some of their observations which showed that the gastric mucosa of women reacts less to external stimuli than the gastric mucosa of men. They contend this is one of the chief causes for the lower percentage of ulcers in women.

The physician who treats a peptic ulcer of the stomach indefinitely by medical means assumes a very grave responsibility. Even though relief may be satisfactory within a few weeks, there may be a recurrence. Here the examination by a competent roentgenologist is highly important. Probably one of the most dangerous influences in cancer of the stomach is friendship, and this may include not only the lay friends of the patient but also the doctor friends who do not wish to face disagreeable facts. Practically all early cases of cancer of the stomach are relieved by medical treatment at first; so relief of symptoms by medical treatment is not a therapeutic test in early cancer.

Although symptom-free, a gastric ulcer that does not completely disappear roentgenologically after six weeks of intensive medical treatment should be removed surgically. In these cases because of the possibility of cancer, a partial or total gastrectomy, depending upon the extent of the lesion, is the only operation to be considered. In one of our larger eastern clinics it was the custom to treat gastric ulcers medically for a much longer time. Recently, they had two cases which were thought to be benign but developed into malignancy while under treatment, and now they advocate resection on all gastric ulcers without any trial on medical treatment. However, I think this is a little too radical. The following case report illustrates the improvement shown by even extensive carcinoma of the stomach under medical treatment.

CASE NO. 1. Mr. E. G. C. a man 61 years of age, complained of indigestion over a period of some years. In September, 1946, he was seen by an internist who suspected gastric ulcer or malignancy. X-ray examinations revealed a large ulcer involving the lesser curvature and the posterior wall of the stomach. It was thought to be malignant, and immediate operation was advised.

The patient refused operation but started on medical treatment. Within a few months he gained fifteen pounds and said he felt better than he had for several years. He returned to work in his usual position as a chemist for nine months. At that time he noticed a small right inguinal hernia and consulted a local surgeon who advised repair of the hernia which was done under local anesthesia. The patient had no other complaints at that time and did not give a history of his gastric complaints of the year before. He made a satisfactory immediate convalescence from the operation, but several days after returning home developed a good deal of indigestion with nausea and vomiting. At that time he was x-rayed and was found to have a very extensive carcinoma of the stomach involving the pyloric half of the stomach. He again refused operation as he improved following gastric lavage and transfusions.

Three months later, a year from the date he was first advised to have an operation, he developed almost complete obstruction of the pyloric end of the stomach. After a short period of supportive treatment an exploratory laparotomy was done, not with the idea of resecting the growth, but rather of relieving the obstruction. At operation it was found that the patient had extensive carcinoma of the stomach involving the anterior and posterior walls from just below the esophago-gastric junction down to the pyloric end of the stomach. The pyloric sphincter was not involved. The lesion had advanced so far that even a gastro-enterostomy was impossible, and the abdomen was closed after securing a specimen for biopsy. The biopsy showed a high grade type of malignancy.

In a report on the surgery of the stomach and duodenum for 1945 at the Mayo Clinc, it is noted that up to sixty per cent of all gastric ulcers admitted to the clinic were operated upon; and of these, fifteen per cent of the lesions thought to be benign, at operation proved to be malignant. They reported a mortality of 2.1 per cent in their results of gastric ulcers. The recurrence of gastric ulcers following gastrectomy is very low. In fact, seldom if ever does a benign gastric ulcer recur following resection. This unfortunately is not true in duodenal ulcers.

When a peptic ulcer develops within the grasp of the pyloric sphincter, or has penetrated into the pancreas, it is usually but little affected by medical treatment and demands surgery. In an individual who has a duodenal ulcer which shows no signs of perforation, bleeding, or obstruction, medical treatment can be continued for some time, but if one of these occurs operation should be considered. A patient over 45 years of age should not be allowed to bleed the second time, but more temporizing can be done in the younger age group. When an operation has been decided upon, there are four types of operations that may be done; namely, gastro-enterostomy, pyloroplasty, gastrectomy, and vagotomy.

Gastro-enterostomy was the operation of choice in the period from 1910 to 1920. It was done quite extensively with excellent immediate results. Unfortunately, approximately twenty per cent of these cases later developed gastrojejunal ulcers. These marginal ulcers developed anywhere from one to twenty years after operation. Montgomery and Kirshbaum reported a study of eight necropsies in which death resulted from a jejunal anastomotic ulcer. In one of these cases there was a recurrent ulcer around the stoma and death resulted from hemorrhage seventeen years after resection. In this case a Billroth II operation had been done. In other cases they noted jejunal ulcers after posterior gastroenterostomy occurring nine, eleven, fifteen, and twenty years after operation. For this reason it must be obvious that a perforation or hemorrhage from gastrojejunal ulcer after either a Billroth II type of gastric resection or gastro-enterostomy is an ever present danger. Because of this secondary complication a gastro-enterostomy alone is now seldom done in the presence of an active ulcer in young individuals. However, it is the operation of choice in elderly people with low acid who show obstruction of the duodenum with gastric retention after twenty-four hours.

Because of the failure of gastro-enterostomy, a pyloroplasty type of operation was tried. By this operation the pyloric end of the stomach was enlarged and the sphincter divided so the stomach would empty more readily, and also there would be regurgitation of the alkaline duodenal juices into the stomach. This would reduce the total acid content of the gastric and duodenal secretions. In certain rare cases this operation is still of value although generally it has fallen into disrepute. Now it is used only where there is an ulcer on the anterior part of the duodenum with mild duodenal obstruction and low acid, or in conjunction with an abdominal vagotomy.

It has been stated that in order to prevent recurrences of peptic ulcer after an operation, it is desirable to have an absence of hydrochloric acid in the gastric juice. With this in view it has been assumed that an extensive excision of the stomach is always indicated. However, in this assumption nature's attempt at a physiologic balance seems to have been ignored. It is well known by physiologists that if kidney tissue is reduced in stages, an experimental animal can live in apparently good health after excision of about three-fourths of the kidney structure. This, however, must be done at intervals to permit a compensatory hypertrophy and hyperplasia. Somewhat the same procedure can be carried out with the liver. The same principle is clinically involved when extensive pathologic lesions of a viscus have gradually thrown the physiologic functional burden on the normal portion which could not stand the strain if this were done suddenly. If a large part of an important viscus is removed, but not enough to cause an immediate fatality, the remaining portion increases to meet the functional deficit. It seems highly probable, then, that after excision of one-half to two-thirds of the stomach the remaining portion of the stomach regenerates so that the secretion of hydrochloric acid may be eventually increased to compensate for the tissue removed. Consequently, an analysis for free acid in the gastric juice done in a few weeks or a few months after a Billroth II type of operation may show no acid; but a year or several years later, if proper allowance is made of the neutralization by the duodenal contents, the hydrochloric acid secretion of even the small remaining portion of the stomach will doubtless be greatly increased over what it was soon after the operation.

It is also well established that the resistance of the intestinal mucosa to the irritating effect of the gastric juice decreases from the duodenum to the colon. Consequently, when the jejunum is applied to the stump of the stomach, there is apposed to it mucosa which is more susceptible to the irritation of the acid than the mucosa of the duodenum. The reason the duodenum is more subject to ulcer is

not that it is more susceptible to the influence of the acid of the stomach, but that it receives the brunt of the emptying impact of the stomach. If the duodenum were as susceptible to the acid of the gastric juice as the middle of the jejunum is, probably all of us would have duodenal ulcers. Particularly does it seem undesirable to use a Billroth II type of operation for peptic ulcer in patients with a high hydrochloric acid content in the gastric juice.

That the Billroth II type of operation is not well suited to intractable ulcers would seem to be indicated by the recent reports of Jordan and the Mayo Clinic. Jordan has reported that of the twenty-one patients operated upon for duodenal ulcers by the Billroth II type of operation, eight were symptomless from one to ten years while thirteen had discomfort ranging from postprandial distention to vomiting and diarrhea, and in five of these, jejunitis or jejunal ulcer was suggested both clinically and by Roentgen examination. In none of these cases was free hydrochloric acid found after a test meal, but its absence without fluoroscopic control of the position of the tube in the resected stomach is not absolute evidence of a lack of secretion.

A recent report of the Mayo Clinic on surgery of the stomach and duodenum shows that they are now doing the Billroth I type of operation whenever possible in preference to the Billroth II type for duodenal ulcers. In another report they noted a decline in the surgical treatment of duodenal ulcers admitted to the clinic. In 1931, 26% of the cases were treated surgically while in 1945 this dropped to 13%. Since the advent of vagotomy in 1945 and 1946 a higher percentage of these ulcers were submitted to surgical procedures.

Within the past several years, Dragstedt, Moore, and Grimson have individually done much work on gastric vagotomy. This is also called gastric neurectomy by some authors, but this latter term is misleading as no attempt is made to remove the sympathetic nerves of the stomach by this procedure. In the 1920's Harvey Cushing first noted the high incidence of peptic ulcers in patients operated upon for certain types of lesions of the mid brain and diencephalon. At that time he suggested a nervous origin or possible association of peptic ulcer with lesions in the para-sympathetic center in the hypothalmus.

In 1925 Walter Hughson also called attention to the influence of nervous impules through the vagus nerve on pyloric contractions and duodenal ulcers. Soon after this work of Hughson, J. Shelton Horsley began resecting the anterior vagus along with pyloroplasty and gastro-enterostomy in those cases of duodenal ulcer with high acid content in the gastric juices. It was noted at that time, particularly by the house staff, that individuals on whom this was done showed an increased emptying time of the stomach but a lowering of the total acid. We have continued resection of the anterior gastric vagus nerve with what we considered good results whenever ulcers of the duodenum were operated upon. The recent work on the vagus nerve goes much further and is more radical, and within the past few years we have done either a transthoracic or an abdominal vagotomy in certain selected cases.

Because of the satisfactory results obtained from gastric resection and the high incidence of carcinoma in gastric ulcers, I do not think vagotomy, either transthoracic or abdominal, is indicated in gastric ulcers, but it is suitable in certain selected cases of duodenal ulcers. In my opinion a young individual with a high acid and no obstruction but with intractable pain, a transthoracic vagotomy is the operation of choice. If these patients are selected carefully, I do not believe other procedures such as pyloroplasty or gastro-enterostomy will be necessary. However, if there is the slightest possibility of obstruction or if there have been any other complications, the transabdominal operation should be carried out, at which time the vagotomy can be done just under the diaphragm and the duodenal ulcer either resected by partial gastrectomy or left in place and pyloroplasty or posterior gastro-enterostomy performed. Approximately eighty to eighty-five per cent of these cases reported in literature in which this plan has been followed have received excellent results and only seven to eight per cent of the cases have been reported to be complete failures. These are much better results than had ever been obtained before radical vagotomy was carried out. It must be remembered that no matter what type of operative procedure has been done, the patient must be continued on medical treatment with a bland diet and adequate rest, for it has been shown both experimentally and clinically that even after the most radical surgery

there is a tendency toward regeneration of the gastric fundic glands and reappearance of increased amounts of gastric secretion.

Several illustrated cases are reported below:

CASE NO. 2. Mr. C. H. L., age 39, complained of severe abdominal pain for several years. A year previous to admission he was x-rayed, and a penetrating type of peptic ulcer was noted which seemed to be on the gastric side of the pyloric sphincter. He was put on medical treatment but obtained only temporary relief. Immediately before operation, x-ray showed that the ulcer crater had enlarged. At operation a large penetrating type of ulcer was found in the pre-pyloric region, penetrating into the head of the pancreas. A partial gastrectomy, Billroth I, Horsley modification, was done and also cholecystectomy as the gallbladder was thickened and contained many adhesions. The patient made a very satisfactory convalescence and was discharged from the hospital nineteen days after operation. He reported his condition a year later, at which time he said he was symptom-free, had gained weight, and was able to hold his regular job without any difficulty. This case illustrates the point already mentioned; namely, that a penetrating ulcer of the pyloric sphincter is very seldom if ever relieved by medical treatment, and immediate relief and excellent results are obtained following adequate partial gastrectomy.

CASE NO. 3. Mr. O. L. S., age 64, complained of indigestion for twenty years. He was known to have a duodenal ulcer for much of this time. Recently, although he had continued on medical treatment, his symptoms had increased, and he had some nausea and vomiting. X-ray examination showed he had some gastric retention at the end of six hours. He was operated upon on February 26, 1946, at which time a large ulcer was found in the duodenum with cicatricial contractions of the duodenum. He had a partial gastrectomy, Billroth I, Horsley modification. The patient made a very satisfactory convalescence and was discharged from the hospital twenty-one days after operation. He returned to his occupation as a lawyer several weeks after operation and has continued his professional practice since that time. This case shows that a duodenal ulcer may be perfectly safely treated for many years medically; but if obstruction occurs, some type of operation is necessary. As his acid was quite high it was thought much better to do a partial gastrectomy rather than a gastro-enterostomy.

CASE NO. 4. Mr. L. C. H., age 33, complained of severe indigestion and abdominal pain which had been present for seventeen months. X-ray pictures showed he had an ulcer at that time, and he was put on a diet with immediate relief. However, this relief lasted for only a few weeks, the pain recurred, and a year before admission he had a rather severe gastric hemorrhage. Since then although following a strict diet, his pain had continued so severely that he was unable to do any type of work. X-ray examination showed a gross deformity with a large crater in the first portion of the duodenum. His pain was almost constant, and gastric analysis showed free acid of 72 degrees and a total of 80 degrees. As there was no evidence of duodenal obstruction, a transthoracic bilateral vagotomy was done on the eighth of November, 1946, and he was discharged from the hospital two weeks from the date of operation. Immediately after operation the patient experienced complete relief of pain and reported nine months after operation that he was in excellent condition. He had had no further indigestion but had continued on his diet. X-ray examination showed the ulcer to be completely healed, and there was no gastric retention. This case illustrates the only type of patient on which I think a transthoracic vagotomy should be done. He was a young man with high acid, and there was no evidence of any duodenal obstruction, and x-ray examination showed the ulcer was definitely in the duodenum.

CASE NO. 5. Mrs. F. B. M., a woman age 42, complained of abdominal pain, indigestion, lassitude, and lack of appetite. Several years previously she had been operated upon for cholelithiasis, and the gallbladder was removed. The patient had been on medical treatment without any relief of symptoms, and it was thought that many of her symptoms were neurogenic in origin. X-ray examination showed she had a duodenal ulcer with some duodenal obstruction and twenty-five per cent gastric retention at the end of twenty-four hours. Before operation her acid was from 19 to 54 degrees free and a total of 25 to 66 degrees. She was operated upon on the eleventh of August, 1947, at which time a transabdominal vagotomy was done along with posterior gastro-enterostomy. She made a satisfactory convalescence and was discharged

from the hospital twenty days after operation. The day before discharge the gastric analysis was repeated, and there was no free acid and the total was from 12 to 40 degrees. One month after operation she stated she felt better than she had for many years and she had gained sixteen pounds in weight. This case illustrates the value of transabdominal vagotomy. With the associated duodenal obstruction, I am quite sure the operation would have been a complete failure if the posterior gastroenterostomy had not been done.

In conclusion, peptic ulcers should receive adequate medical treatment after a definite diagnosis has been obtained by x-ray examinations. Before treatment is started, gastric analysis should be done to determine the amount of both free and total hydrochloric acid present. Medical treatment should not be continued more than six weeks on gastric ulcer cases unless by x-ray observation the crater is completely healed in this time, since from fifteen to twenty per cent of the cases reported by x-ray to be benign have been found at operation to be malignant. Surgical treatment of duodenal ulcers should be delayed until medical treatment has been given an extensive trial unless the pain is intractable or there is perforation, persistent bleeding, or duodenal obstruction. Vagotomy is of definite value in certain cases of peptic ulcers of the duodenum with high acid but should not be used alone unless there is no gastric retention or other evidence of pyloric or duodenal obstruction.

BIBLIOGRAPHY

Cannon, W. B.: The Mechanical Factors of Digestion, Longmans Green and Company, 1911.

Cushing, Harvey: Peptic Ulcers and the Interbrain. *Surg., Gynec. and Obst.* **55**:123, 1932.

Dragstedt, Lester R.: Vagotomy for Gastroduodenal Ulcer. *Ann. Surg.* **122** (6): 973-989, December, 1945.

Dragstedt, Lester R., Clark, James and Storer, Edward: Section of Vagus Nerves to the Stomach in Treatment of Peptic Ulcer. *Proc. Institute of Medicine of Chicago* **16**:146, April, 1946.

Grimson, K. S., Taylor, H. M., Trent, J. C., Wilson, D. A., and Hill, H. C.: The Effect of Transthoracic Vagotomy Upon the Functions of the Stomach and Upon the Early Clinical Course of Patients with Peptic Ulcer. *Southern Med. Jour.* **36**:460, 1946.

Higgins, William H.: The Clinical Significance of Hunger Pains, Gastro-Intestinal and Gallbladder Diseases. *J.A.M.A.* **82**:599-601, February 23, 1924.

Hughson, Walter: Reflex Spasm of the Pylorus and Its Relation to Diseases of the Digestive Organs, *Arch. Surg.* **2**:136-151, July, 1925.

Jordan, Sara M.: End Results of Radical Surgery of the Gastro-Intestinal Tract as Seen by the Gastroenterologist. *J.A.M.A.* **116**:586, February 15, 1941.

Montgomery, M. M., and Kirshbaum, J. D.: Jejunal (Anastomotic) Ulcer: A Clinical and Pathologic Study with Report of Eight Cases Encountered in 13,000 Necropsies. *Arch. Int. Med.* **67**:609, March, 1941.

Moore, Francis; Chapman, William; Schulz, Milford; and Jones, Chester: Transdiaphragmatic Resection of the Vagus Nerves for Peptic Ulcer. *New Eng. Jour. Med.* **234**:241-251, 1946.

Walters, Waltman; Counseller, Virgil S.; Waugh, John M.; and Clagett, O. Theron: Report of Surgery of the Stomach and Duodenum for 1945. *Proc. Staff Meetings of Mayo Clinic* **22**:345-349, August 20, 1947.

Residencies in Psychiatry

Are now available at the Veterans Administration Hospital, Roanoke. Training will be given at the Hospital under the supervision of the Department of Psychiatry, University of Virginia School of Medicine. A three year program is approved by the American Medical Association, and will include didactic and clinical instruction in all phases of Psychiatry and basic Neurology.

Applications should be addressed to Manager, Veterans Administration Hospital, Roanoke 17, Virginia.

ANOTHER FATALITY FOLLOWING THE USE OF TRIDIONE AND AN HYDANTOIN*

R. FINLEY GAYLE, JR., M.D., F.A.C.P.
JOHN P. LYNCH, M.D., F.A.C.P.,
and
J. HAMILTON SCHERER, M.D.,
Richmond, Virginia.

Harrison *et al* in the *Journal of the American Medical Association* for September 7, 1946, reported one fatality due to aplastic anemia following the use of tridione and methylphenylethyl hydantoin, and in the same issue of this journal Mackay and Gottstein reported another fatality following the use of tridione. We are reporting still another fatality due to pancytopenia following the use of sodium diphenylene glycolyl urea which is closely related chemically to dilantin, and tridione.

REPORT OF CASE

J. T., white girl, age 11 years, was first seen by one[1] of us, July 11, 1945, at the age of 9½ years, because of momentary lapses of consciousness. The mother reported the first attack was in June, 1944, following a middle ear infection. In the beginning the attacks were infrequent but later became more frequent—as many as 28 a day. They were more frequent just before meal time, and often during the attacks she would rub her nose and pull her hair. She never fell, never had a convulsion, and there was no evidence of grand mal epilepsy. She had been given phenobarbital and later dilantin grains ½ t.i.d. without improvement. Momentary lapses of consciousness were observed during the first interview and examination of the patient, and they were definitely petit mal in type.

She was full term, normal delivery, breast fed, walked at 13 months, talked at 2 years, and the dentition was normal. Her past history revealed urethral stricture which was dilated at 10 months, rubeola, mumps, and varicella at 6 years, rubella at 9 years, tonsillectomy and adenoidectomy at 6 years.

Her habits were good except for some difficulty in going to sleep. Her physical and neurological examinations were entirely negative and there was no evidence of focal brain disease. Her weight was 75 pounds, blood pressure 88/60, pulse 96. The eyegrounds were negative. The basal metabolic rate was minus 19 per cent. The electroencephalogram report was as follows: 6 lead E.E.G-Monopolar Recording: 3-7/sec. activity, often of high voltage frequently interrupts more normal activity in all leads. Runs of very high voltage 3/sec. activity, with and without accompanying spikes, are recorded more frequently with hyperventilation. The longest of these runs is of 11 seconds duration. Between these bursts the activity is slow and disorganized. Impression: Petit mal.

She was given glutamic acid, eight tablets, ½ gm. each, three times a day, and phenobarbital, grains ½, at bedtime, and the dilantin discontinued. Thyroid, USP, grains ½, three times a day, was also prescribed.

She was seen at monthly intervals and showed some improvement. In September, 1945, she was given sodium diphenylene glycolyl urea (diphenylene), closely related to dilantin. In October because of lack of improvement the thyroid was discontinued. In January, 1946, marked improvement was reported, but by May the attacks again became more frequent.

On May 10th she was given tridione, 5 grs., four times daily. In June it was reported that she had suffered no attacks since May 10th. Diphenylene was continued as well as the tridione. In July she seemed pale and her laboratory examinations were as follows: Basal metabolism was minus 19 per cent. There were 4,500,000 red blood cells, hemoglobin 90%, 5,300 white blood cells with 34% polymorphonuclears, 62% small mononuclears, 2% large mononuclears and Turck's cells, and 2% eosinophils. Blood sedimentation rate was 6 mm. per hour. Urinalysis revealed color amber; sediment plus; reaction acid; specific gravity 1.020; albumen 0; sugar 0; epithelial cells few; pus cells, red blood cells, casts, mucus and crystals negative.

On August 28, 1946, the last visit prior to her admission to the hospital, she appeared well and her mother reported no further attacks.

*Read at the Staff Meeting of the McGuire Clinic, Richmond, February 3, 1948.

1. R. Finley Gayle, Jr., M.D.

Final Illness.—On September 27th patient had a slight head cold. On the 29th she awaked with a fever of 102 degrees, pain in the right shoulder blade, and a slight cough which was not productive of blood. The next day she felt chilly and was drowsy, and at noon her temperature was 103.8 degrees. Penicillin tablets, 50 thousand units every two hours, were given for twenty-four hours. The next day her temperature was normal. However, it was noticed that she was quite anemic (hemoglobin 42%). For the past one or two months her mother had noted bruises on the legs and more recently on her back and arms. October 2nd, she was admitted to St. Luke's Hospital.

Physical examination on admission revealed a well developed, poorly nourished, pale, little girl who seemed above the average in intelligence. Her temperature was 98.2, pulse 90, and respiration 18. The sinuses transilluminated well and were not tender. Eyes reacted normally to light; extraocular movements and fundi were normal. Ear drums were normal, hearing good. There was no obstruction or discharge from the nose. The teeth were in good condition; tongue and throat normal. The cervical glands were slightly enlarged; no neck stiffness; no thyroid gland enlargement. The lungs were clear throughout. Examination of the heart revealed no enlargement, murmurs or arrhythmia. The blood pressure was 100/55. The liver and spleen were not palpable; there was no costovertebral angle tenderness. Extremities and reflexes were normal. Several pale bluish areas, varying in size from a dime to a quarter, were noticed on the left shoulder, right arm and left leg. These areas were scarcely discernible, but according to the mother had been more prominent.

The x-ray report of the chest was as follows: There is a small faint shadow behind the right first interspace, the nature of which is not clear at the present time.

Urinalysis revealed: Color amber, slightly cloudy, specific gravity 1.021, reaction acid, faint trace of albumen, sugar negative, acetone negative. Microscopic examination showed rare red blood cells, many epithelia, few bacteria.

The peripheral blood smear made October 5th was normocytic and normochromic with occasional polymorphonuclear cells, few platelets, and most of the cells lymphocytes with occasional monocytes. There was little or no regeneration.

Sternal biopsy October 5th was reported by Dr. Scherer as follows: Sternal puncture shows a con-

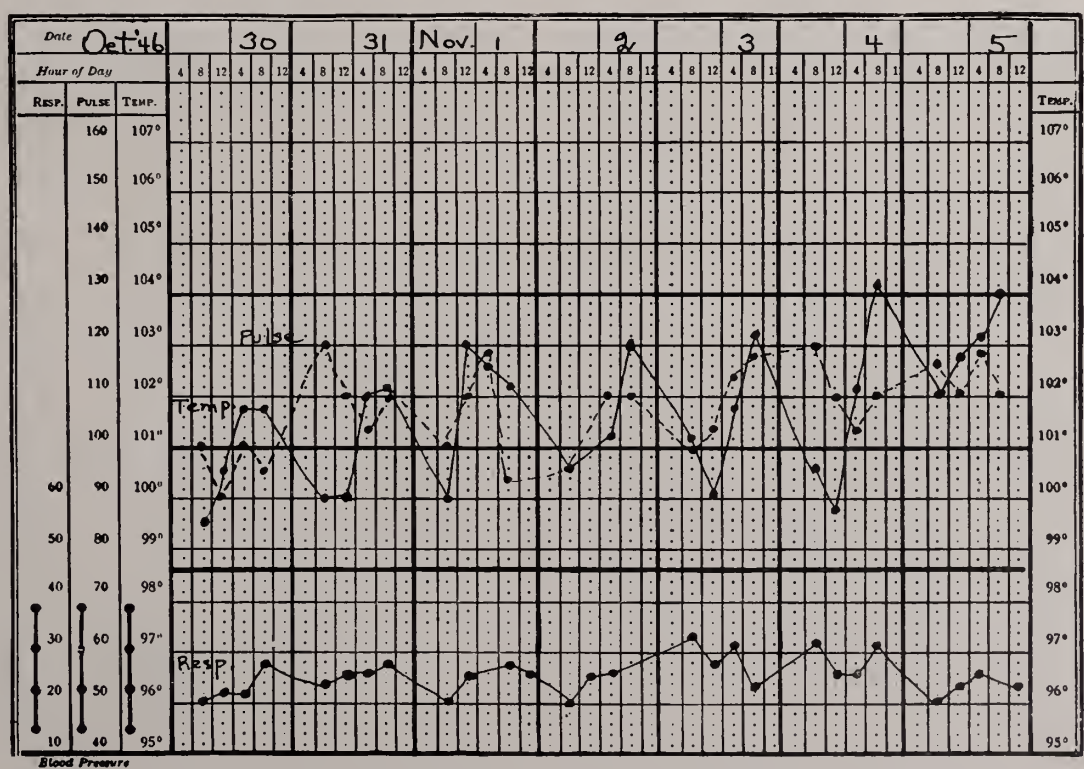


Fig. 1.—Clinical record of temperature, pulse, and respiration, shown graphically for a typical week.

siderably hypoplastic bone marrow with, however, more cells than we have been accustomed to seeing in other aplastic anemias such as those from the sulfa drugs or arsphenamine. There are a number of scattered normoblasts with very few younger cells while polys are scattered in the smear with very rarely a young cell of the blast type. No megakarocytes are seen although several of the blast cells have the appearance of megakaroblasts. Reticulum cells are frequently encountered and there are a number of scattered lymphocytes. A differential count gives this approximate result: Reticulum cells 7%, erythroblasts 1%, normoblasts 8%, myeloblasts 2%, myelocytes 2%, polymorphonuclears 8%, monocytes 2%, plasma cells 1%, and lymphocytes 69%.

The temperature, pulse and respiration for a single week are shown graphically (Fig. 1).

For the sake of clarity the following table serves as an outline of the blood picture and hospital course (Table 1).

During her hospitalization she was given phenobarbital, grs. ½, three times a day, and no seizures occurred. In spite of seven transfusions and other supportive measures the patient's general course was one of gradual deterioration and she died quietly November 23rd, 1946.

Postmortem Findings (Dr. Scherer).—The body

Date 1946	Hemoglobin Sahli	Erythocytes Millions	Leucocytes	Polymorphonuclears Per Cent	Transfusions Citrated Blood	Penicillin in 1000 Units Daily	Crude Liver Units	Pyridoxine Hydrochloride Mg. Daily	Remarks
Oct. 2	48	2.3	2500	6	---	160	2	100	Chest x-ray: Faint shadow behind 1st right interspace.
3	47	2.7	2340	4	---	160	4	100	Sedimentation rate 35 mm. in hour.
5	38	2.0	2260	0	500 cc.	160	8	100	Note petechiae on buccal mucosa.
6	56	---	2300	9	---	160	8	100	Platelets 40,000.
7	52	---	2140	8	---	160	8	100	Platelets 30,000.
8	52	---	1350	6	---	160	8	100	
9	50	2.7	2310	10	---	160	8	100	
10	40	---	2080	2	500 cc.	160	8	100	Stool negative for blood.
12	64	---	2100	4	---	---	8	100	
14	48	2.9	2200	4	500 cc.	---	8	100	
						oral			
16	65	4.0	2280	5	---	150	8	100	Note rectal ulcer and lip ulcer.
18	74	3.7	2180	5	---	400	8	100	Rh positive.
21	52	2.8	2060	2	500 cc.	400	8	100	
23	60	3.0	2520	1	---	---	8	100	
25	58	3.0	2400	6	---	---	8	100	
28	50	2.4	1960	2	500 cc.	---	15	100	
30	65	3.6	1420	5	---	---	30	100	
Nov. 1	64	3.2	2560	12	---	---	30	100	
4	58	2.9	1820	5	---	---	30	100	
6	50	2.6	2560	3	500 cc.	---	30	100	Pain in abdomen.
							oral		
9	50	3.8	1510	4	---	---	1 oz.	100	
12	60	3.2	1940	8	---	---	1 oz.	100	Urine bloody.
14	60	3.2	2740	11	---	---	1 oz.	100	
16	48	2.5	1400	17	---	---	1 oz.	100	
18	48	2.5	2340	9	500 cc.	---	.5 oz.	100	
20	58	2.9	2600	7	---	---	.5 oz.	100	Bleeding from nose and mouth.
21	28	---	---	---	---	---	---	---	Vomited large amount of blood.
23	Patient died quietly 5:35 A. M.								

Table 1.—Summary of important factors in clinical course.

was that of a somewhat emaciated, extremely pale, young female. About the buttocks there were irregular, brownish, pigmented areas resulting from old hemorrhage or injections. Otherwise, there were no external markings of significance.

Thorax: Both lungs were free in the pleural cavities which contained no fluid. On section these showed scattered hemorrhagic areas in the bases. Both lungs were air containing and contained no areas of consolidation.

Heart: The pericardium contained a small amount of straw colored fluid. On the anterior surface of the left ventricle there were numerous confluent petechial areas of hemorrhage in the epicardium and one larger area near the base of the heart about 1½ cms. in diameter. The hemorrhage was confined to the epicardium. The heart was moderately dilated and very pale, soft, and flabby. On section all of the valves were quite normal, thin, and delicate. The aorta was normal.

Gastrointestinal Tract: The lower portion of the gastrointestinal tract from the cecum down had a purplish color and on opening the colon, there was found to be a bloody feces throughout the colon. The upper gastrointestinal tract was essentially normal.

Liver: The liver was normal in size and of a pale, brownish color. The lobules were somewhat indistinct. The gallbladder was normal.

Spleen: The spleen was moderately enlarged to approximately 200 grams and on section was somewhat pale. The consistency was relatively firm. Malpighian bodies were not especially prominent.

Kidneys: Both kidneys were removed and noted to be extremely pale. The right kidney showed hemorrhage and blood clot in the pelvis. The cortices were normal, and other than showing marked anemia, there were no further gross findings in the kidneys.

Pancreas: The pancreas was a light yellow color and normal in appearance and consistency.

Adrenals: Both adrenal glands were removed and noted to be normal, showing no evidence of hemorrhage.

Urinary bladder: The urinary bladder was normal and distended with urine.

Uterus: The uterus was infantile and there was no abnormality of the tubes or ovaries.

Bone marrow: Bone marrow was taken from the sternum and the vertebral column. The bone marrow had a pinkish red appearance and was somewhat firm in consistency. This applied both to the marrow from the sternum and from the vertebra.

Microscopical Examination:

Spleen: The spleen showed prominence of the lining cells of the sinuses which were dilated or appeared so because of the small amount of blood present in the organ.

Lung: One section from the lung showed considerable hemorrhage into the alveoli in scattered areas. Another section showed marked areas of hemorrhage along with some pulmonary edema. There were scattered heart failure cells.

Pancreas: The pancreas was essentially normal.

Kidney: One kidney showed an organizing blood clot in the pelvis underneath the transitional epithelium lining the pelvis. There were also cells containing blood pigment in the perirenal fat about the pelvis. The kidney itself was essentially normal except for albuminous material in the tubules. The other kidney showed no hemorrhage and was pale, with albuminous material in some tubules.

Heart: There were areas of hemorrhage in the epicardium as well as scattered foci of hemorrhage within the muscle of the heart.

Bone marrow from the sternum and the vertebral column: Both marrows were essentially similar showing a marked fatty change for an individual of this age along with a considerable number of normoblasts, and a few areas of myeloid tissue. These, however, were very sparse. There were no megakarocytes to be seen. Scattered reticulum cells contained blood pigment. There was a marked hypoplasia of the marrow.

Colon: Section of the colon was not remarkable.

SUMMARY

A girl, aged 10 years, died from pancytopenia after having taken tridione and diphenylene concurrently for a period of five and one-half months. All supportive measures for stimulating hematopoiesis proved valueless.

CONCLUSION

Tridione and diphenylene, although not proven as the cause of pancytopenia, were thought to be the etiologic agents in its production. We feel prompted to add this report as an additional warning to those who use these drugs in the treatment of petit mal epilepsy.

SEROLOGIC TESTS FOR SYPHILIS AND THEIR CLINICAL APPLICATION*

WILLIAM J. FROHBOSE, M.D.,
Acting Director, Division of Venereal Disease Control,
State Department of Health,
Richmond, Virginia.

Serologic tests for syphilis are based on the presence in the blood of a nonspecific substance called reagin. Reagin is present in the blood of some normal individuals, usually in such small quantities as to be undetectable by ordinary methods. The accepted blood tests for syphilis are so designed as to recognize only that level of reagin that is found in syphilitic infection. However, other diseases and disorders may produce a bodily reaction causing a rise in blood reagin. This is the so-called biological false positive. Among the chief causes of such reactions are: infectious mononucleosis, malaria, yaws, pinta, kala-azar, leprosy, tuberculosis, relapsing fever, the common contagious diseases, i.e., measles and mumps, smallpox and other vaccinia, acute febrile episodes, and some forms of malignancy.

Serologic tests for syphilis are performed on a qualitative and quantitative basis. The qualitative test indicates a blood reagin level compatible with syphilitic infection, while the quantitative test indicates the amount of reagin present in the blood. The latter is expressed in dilution value or units.

Since the description of the first serologic test for syphilis in 1906, various men have devised newer and more sensitive methods of detecting reagin in the blood. With an increase in sensitivity of these procedures, there has been an increased incidence of false positive reactions reported. Today, it is essential that serologic studies be performed in approved laboratories, staffed with competent personnel, capable of carrying out reproducible tests, using standardized equipment and procedure.

To comprehend serologic results, one must have an understanding of the laboratory procedure. An initial test is run on an undiluted specimen using an arbitrary amount of serum. This is the qualitative serologic test and it is reported as follows:

Negative—if no reaction is noted.

Doubtful—if a reaction is noted, but is of insufficient intensity to be reported as a definite positive.

Positive—if a definite reaction is noted.

This qualitative test constitutes the first step in a quantitative study. If the qualitative test is positive, the serum is diluted with an equivalent amount of saline producing a dilution of 1:2. If the test is positive in this tube, the serum is again diluted with an equivalent quantity of diluent, thus yielding a dilution of 1:4. This dilution process is continued until the tested portion gives a negative result. The last positive dilution is recorded and the blood test reported as positive in that particular dilution. In some areas the results are reported in Kahn units. This unit value is obtained by multiplying the highest dilution value by four. Following is a graphic illustration of serologic reaction:

Quantitative Test	Dilution 1:32	128 Kahn units
	" 1:16	64 " "
	" 1:8	32 " "
	" 1:4	16 " "
	" 1:2	8 " "
(Undiluted Serum)	1:1	4 " "
Quantitative Test	Positive (4+)	
	Doubtful (2+)	(Quantitative test cannot be done)
	Negative (0)	

Using an arbitrary amount of serum ¼ - ½ cc.

(Above chart—courtesy of Dr. Kimbrough)

Any statement regarding the clinical application of serologic results must be prefaced with the remark that serologic tests are only an aid in the diagnosis and follow-up of syphilis. The qualitative test is of greatest value when integrated with a complete history and physical examination. To condemn an individual to antisyphilitic therapy, solely on the basis of one or two positive blood tests, is a grave error in medical judgment. Any patient whose only positive findings are 1 or 2 blood tests and whose history and physical examination are negative, is entitled to a searching, prolonged study before being diagnosed as a syphilitic. Such observation should include repeated serologic blood tests and clinical inspections, as well as a thorough

*Read before the Rockingham County Medical Society, July 24, 1947.

search for the possible causes of false positive reactions.

The quantitative test is of greatest value in:

1. The follow-up of treated cases of syphilis
2. The detection of approaching clinical relapse
3. The evaluation of the status of infants born of treated syphilitic mothers
4. The study of the blood of suspected false positive reactors.

It has been conclusively shown that the level of reagin in the blood of a syphilitic prior to treatment has little or no relation to the severity or prognosis of his disease. For this reason, the quantitative serologic test has no place in the diagnosis of syphilis, except in the specific cases previously mentioned.

When a diagnosis of syphilis has been made and the patient treated for his disease, adequate post-treatment follow-up demands quantitative serologic tests at regular intervals. A suggested schedule would include tests each month for the first six months, then every three months for the 9th, 12th, and 15th months and yearly thereafter to a total of five years. A spinal fluid examination should be made during the first year after treatment, preferably within the 6th to 12th month.

Following treatment of syphilis, there are certain definite serologic patterns that appear. While Moore states "Initial serologic response during the first few months of treatment is not a guide to the probability of cure," it is nevertheless true that serologic observation on a quantitative basis gives us a most excellent index of progress in treated cases of syphilis.

The average time of reversal of serology in treated syphilis is variously reported. It is apparently governed to a considerable extent by the duration of infection prior to treatment. For example, syphilitics if treated in the primary stage or shortly after seropositivity is attained, show a rapid reversal of reaction, becoming negative in a few months after treatment. On the other hand, secondary syphilis and late syphilis show a much slower reversal rate. For secondary syphilis, the average time of reversal is 6 to 9 months after treatment—in some cases, being prolonged to 12 to 24 months.

In the follow-up of treated patients on a serologic basis, certain generalizations may be made:

1. If the quantitative serologic tests show a steady decline towards negativity, the spinal fluid is normal, and the patient remains clinically negative, progress is considered satisfactory and further treatment probably unnecessary.

2. If the patient demonstrates a gradual decline toward negativity and then shows a sharp rise in titer substantiated by one or two confirmatory tests, the individual is relapsing and should be retreated. This constitutes the so-called serological relapse and usually occurs within 6 to 9 months after completion of treatment.

3. If the patient's blood shows a persistently high titer level for the first six months after treatment, relapse is fairly certain to occur and retreatment is indicated.

A source of no little confusion in serologic evaluation of treated cases of syphilis are the so-called sero-resistant cases. By sero-resistant are meant those cases in which the positive test for syphilis persists twelve months after completion of treatment. There are two types of sero-resistance reported:

1. That in which penicillin exerts little or no effect on serologic titer. As Thomas puts its, "A persistently high serologic titer over a period of six months with no trend toward reversal portends relapse and demands retreatment."

2. That in which the titer level declines after treatment, but never quite reaches complete negativity. The blood remains positive, but stable and at a rather low level; i.e., a dilution of 1:1 or 4 Kahn units.

The latter type is not associated with a high incidence of relapse and opinion is at variance as to the best disposition in this group. Some authorities feel that the safest procedure is to retreat these patients after twelve months observation, while others feel that treatment may be withheld and the patient observed over a prolonged period, 24 to 36 months, providing the spinal fluid study is negative, and the serologic titer remains at or below 4 Kahn units.

In no case is the quantitative serologic test a substitute for careful and accurate clinical observation. While it is true that a rise in titer usually precedes clinical relapse, it is none the less imperative that thorough clinical study be given all follow up cases. Such study should include a muco-cutaneous and genitalia inspection at the time of each blood test.

Today, facilities for quantitative studies are limited. The State laboratory will perform such tests only upon specific request. The rapid treatment center at Norfolk does the quantitative tests on their post-treatment patients. Until such a time as additional trained personnel and equipment become available, it is hoped that the requests for quantitative serology will be held to the necessary minimum.

Acknowledgment is made to Drs. R. Kimbrough and E. M. Holmes, Jr., of Richmond, and Dr. D. C. Smith of Charlottesville, for their contributions and criticism.

REFERENCES

1. Moore, J. E.: Penicillin in Syphilis, 1946.
2. Holley, H. L.: *J. Med. Assoc., State of Alabama* **16**:259-261, Feb., 1947.
3. Thomas, E. W.: *Am. J. Syphilis, Gonorrhea and Venereal Diseases* **30**:317, 1946.

Medical Mission Reports on Conditions in Puerto Rico.

The greatest single factor in the health of the people of Puerto Rico is nutrition, according to Dr. Ernest E. Irons, Chicago, who served as chairman of a nine-member commission appointed by the American Medical Association and Secretary of the Interior Julius A. Krug, of Washington.

The commission recently returned from Puerto Rico and the Virgin Islands, where it studied medical conditions at the invitation of the U. S. Department of Interior.

In the report, the commission stated that the entire population of Puerto Rico's lower income groups is under-nourished and that the food supply is becoming more inadequate.

One factor undermining the food supply, according to the report, is Puerto Rico's rapidly growing population—increasing at the rate of 65,000 every year.

As to medical service on the island, the report states that there are 800 doctors in the entire area, serving a population of over 2,000,000. Some of these physicians are inadequately trained and many rural areas have no doctors to serve them.

Since Puerto Rico boasts no medical school, the commission suggests that training of physicians take place in the United States. The Puerto Rican legislature has provided scholarships for such training. It is estimated in the report that if only 50 Puerto Rican students per each class of a four-year course came to the continental United States to study medicine, the island's physician needs would ultimately be fulfilled.

On the positive side of Puerto Rican medicine, Dr. Irons points to the School of Tropical Medicine, which he calls the "greatest single factor in improving educational standards in medicine in Puerto Rico."

The School of Tropical Medicine, a graduate school for advanced study, was organized under an enabling act in 1928. According to the report, the work now carried on there in tropical disease research and the testing of new drugs is of outstanding importance to medical science.

Despite the large nutritional and economic problems besetting Puerto Rico, the commission states that the quality of medical care has markedly improved during the last 10 years. Sanitation advances and improvement in some district and municipal hospitals are given credit for this new progress.

DIGITALIS IN ACUTE GLOMERULONEPHRITIS

H. CLARKSON MEREDITH, JR., M. D.*
and
JULIAN R. BECKWITH, M. D.†
Clifton Forge, Virginia.

For many years the edema of acute nephritis was thought to be due to an increase in capillary permeability which allowed fluid and protein to escape through the capillary walls into the extracellular spaces. The edema fluid was found to be higher in protein content than that which was found in heart failure and nephrosis[1]. More recent work indicates, however, that the protein content of the edema fluid in acute nephritis is of the same order as that in these other conditions[2] which would suggest that the edema is due to the decrease in osmotic pressure, increase in capillary venous pressure, to salt and water retention, or to a combination of these factors. It is well known that the protein content of the serum in acute nephritis is usually normal[1,2], leaving the other two factors as probably causes of the edema in this disease.

The occurrence of the congestive failure in acute nephritis has been well reviewed by LaDue[2] and emphasis placed on the association of the edema with congestive failure and its dramatic response to digitalis. Warren and Stead[3,4] have suggested that the primary factor in the production of congestive failure is sodium and water retention with resulting hypervolemia, increase in venous pressure, and cardiac dilatation rather than primary left ventricular weakness and dilatation, pooling of blood in the large veins and increased venous pressure. It appears that in acute nephritis both of these factors could exist since there is impairment of renal function and also evidence of myocardial damage[5].

In six cases of acute glomerulonephritis recently treated in this hospital, immediate digitalization has resulted in a more dramatic improvement than would ordinarily be expected. In each case certain observations were made to establish that congestive failure existed and, following this, the patients were digitalized. It was felt that congestive failure was present in all the cases, as a result of the findings and their response to digitalis.

In evaluating the cases, a routine history was taken with emphasis on such symptoms as dyspnea, orthopnea, edema, increase in weight, and headaches. Enlargement of the heart, pulmonary rales, chest fluid, enlarged liver, rapid pulse, hypertension, pallor, and signs of anemia were particularly looked for on physical examination. Routine blood counts, urinalysis, blood urea, and sedimentation rates were done. In some of the patients total proteins and A/G ratio determinations were done. Following this most of the cases had a vital capacity, venous pressure, and circulation time done. To see if there was any cardiac enlargement, an orthodiagram or six foot chest x-ray was made. Most of the patients were weighed daily. An attempt was made to measure the fluid intake and the urinary output but it was difficult to accomplish because of the employee shortage.

All the studies and observations seem to indicate that a state of congestive failure with cardiac enlargement existed. Recent work by John LaDue[3] has also indicated this. The observations of this small series of cases were as shown herewith in Chart of Cases. In every case there was generalized edema, with pitting dependent edema in two, and a history of hematuria. Five had frequency or oliguria and the same number complained of headaches. Definite dyspnea was noted in three and one was very orthopneic. Some had noticed rather sudden weight gain. Others had nausea and vomiting. Two had generalized convulsions. An elevated blood pressure and cardiac enlargement as shown by physical examination and fluoroscopy or chest x-ray were found in all the cases. Systolic murmurs were heard in three and in one an aortic diastolic murmur was heard for a brief time. The pulse was elevated in five and in four there was a pleural effusion. Four showed an enlarged liver. Electrocardiograms[5] done on two of the patients were within normal limits. Hematuria, cylinduria, and albuminuria were present in all the cases except one in which the laboratory failed to demonstrate red blood cells, in spite of a history indicating it. In two the blood urea was elevated. An anemia and elevated sedi-

*Resident, Internal Medicine, Chesapeake and Ohio Hospital, Clifton Forge, Va.
†Dept. of Internal Medicine, Chesapeake and Ohio Hospital, Clifton Forge, Va.

Name Age	Symptoms	Physical	Urine	Blood	Chemistry	EKG I.V.P.	V.C. V.P. C.T.	Heart Size	Weight	Treatment	Etc.
R.A. 12 On admission [I]	Recent U.R.I. Gen. swelling with puffy face Hematuria Severe headache Nausea and vomiting Convulsions Frequency	B.P. 150/110 Periorbital and Gen. edema Pulmonary rales Cardiac enlargement Pulse rapid Fluid in rt. base Red throat Liver enlarged Edematous optic discs Temp. 100.0	Alb. 2 RBC 25-30 WBC 12-15 Casts 1-2	Hb. 68% RBC 3.3 Sed. Rate 11-16	Blood urea 10	N.D.	N.D.	Physical examination revealed heart definitely enlarged	N.D.	Salt poor diet $MgSO_4$ Digitoxin	
After digitalis	Symptoms cleared very rapidly	Diuresis 2nd and 3rd days B.P. fell to 116/60 on the 4th day No edema on 4th day	Alb. 0 WBC 1-2 RBC 0	Hb. 78% RBC 3.8 S.R. 8-17	Urea 11	N.D.	N.D.	Heart returned to normal size	N.D.		
C.V. 37 On admission [II]	Recent U.R.I. Gen. swelling one week Highly colored (dark) urine Headache Nocturia Dizziness Nausea and vomiting	B.P. 180/108 Puffy face Gen. edema and dependent pitting edema Liver palpable Pulse elevated Rt. pleural effusion Pulmonary rales in bases	Alb. 4 RBC ? WBC few Casts 1-2	Hb. 82% RBC 4.1 Sed. rate 12-20	Blood urea 15	Normal	V.P. 150 mm. H_2O C.T. 12 sec.	Orthodiagram showed definite enlargement Transverse diameter 13.3 cm.	147½ lbs.	Schemm diet Force fluids Digitoxin	
After digitalis	Symptoms cleared very rapidly	Diuresis in 36 hours B.P. started falling on 3rd day and was 150/80 on the 6th day	Alb. 0-2 RBC 0	Hb. 80% RBC 4.1 S.R. N.D.	N.D.	N.D.	N.D.	Decreased in size with transverse diameter of 12.2 cm.	Lost 7 lbs. in 2 days and 12 lbs. in 3 days		
P.N. 15 On admission [III]	Recent URI Puffy face and gen. swelling Hematuria Headache Sl. oliguria later nocturia Nausea Dyspnea Orthopnea Gen. convulsions	B.P. 144/90 Pallor of skin Gen. edema with slight pitting dependently Heart enlarged Mitral systolic murmur Pulse rapid Signs of pleural effusion	Alb. 4 RBC Many Casts Present	Hb. 72% RBC 3.6 Sed. Rate 23-28	Blood urea 13 Total proteins 4.1 (?)	Normal EKG	V.C. 49% V.P. 180 mm. H_2O C.T. 16 sec.	X-ray showed definite enlargement	100 lbs.	Schemm diet Force fluids $MgSO_4$ Digitoxin	Intake and output of no value

		Liver enlarged 2 f.b. below costal margin Sl. choked discs									
After digitalis	Symptoms cleared very rapidly	Diuresis on the 2nd and 3rd day B.P. started down on 5th day and was 110/60 on 10th day	Alb. 2 RBC 6-25 Wbc. several	Hb. 80% RBC 4.2 S.R. 18-24	Urea 14 Total proteins 7.1	N.D.	N.D.	Reduced to normal size by orthodiagram	93 lbs. on 3rd to 4th day 88 lbs. 6th to 7th day		
B.F. 17 On admission [IV]	Recent URI Gen. swelling, puffy face, etc. Dark urine Headache Recent weight gain Oliguria and dysuria Nose bleeds Dyspnea	B.P. 180/100 Pallor of skin Gen. edema Cardiac enlargement Pulse elevated Systolic murmur over precordium Temporary aortic diastolic murmur Edema eye lids	Alb. Sl. RBC 12-15 Casts Occ.	Hb. 52% RBC 3.4 S.R. 15-23	Urea 7.9 Total proteins 8.8	Normal EKG	V.C. 65% C.T. 18 secs. V.P. 250 mm. H_2O	Orthodiagram shows enlargement Transverse diameter 13.5 cm.	117½ lbs.	Schemm diet Force fluids $MgSO_4$ Digitoxin	Intake and output no value
After digitalis	Symptoms cleared very rapidly	Diuresis in 24 hours B.P. fell to 150/90 on the 5th day and was 140/80 on the 9th day	Alb. Sl. RBC 2-3	Hb. 66% RBC 3.9 S.R. 2-15	Urea N.D.	N.D.	V.C. 88% V.P. 95 mm. H_2O C.T. 12 sec.	Orthodiagram showed decrease in size Transverse diameter 10.1	Lost 4 lbs. in 1 day 8¼ lbs. by the 4th day		
T.N. 19 On admission before digitalis [V]	Recent URI Gen. swelling Hematuria Headache Nocturia Dyspnea Cough Abdominal	B.P. 190/104 Pallor of skin Gen. edema Dependent pitting edema Heart sl. enlarged Pulse normal Rales in lung bases Signs of effusion Liver enlarged 3 fingers below costal margin	Alb. 2 RBC 10-12 WBC 2-4 Occ. casts	Hb. 78% RBC 3.9 Sed. rate 11-18	Blood urea 25	Normal	V.C. 42% V.P. 185 mm. H_2O C.T. 15 sec.	Orthodiagram showed transverse diameter was 12.9 cm. and definitely enlarged	136 lbs.	Schemm diet Force fluids $MgSO_4$ Digitoxin	Intake and output of no value
After digitalis	Symptoms cleared rapidly	Diuresis within 36 hours B.P. 138/76 on 10th day. B.P. started down on 5th to 6th day	Alb. 1 RBC 0	Hb. 76% RBC 4.0 S.R. 6-11	Urea 10	N.D.	N.D.	Decreased to 11.6 cm.	Lost 5 lbs. in 1 day, 11 lbs. in 3 days, 20 lbs. in 5 days		

Name Age	Symptoms	Physical	Urine	Blood	Chemistry	EKG I.V.P.	V.C. V.P. C.T.	Heart Size	Weight	Treatment	Etc.
B.M. 10 On admission [VI]	Recent URI Gen. swelling Hematuria Headache Sl. oliguria	B.P. 154/98 Pallor of skin Gen. edema Heart enlarged Systolic murmur at apex Pulse rapid Sm. amt. fluid at left base Slightly tender over kidneys	Alb. 4 RBC Many Casts 3-4	Hb. 74% RBC 3.8 Sed. rate 19-26	Blood urea 40	N.D.	N.D.	Enlarged on X-ray	74 lbs.	Scheunn diet Force fluids $MgSO_4$ Mild sedation Digitoxin	
After digitalis	Symptoms cleared rapidly	Diuresis on 2nd day (3rd hosp. day) B.P. started down on 5th day and was 110/70 on the 6th day	Alb. 4 on the 6th day RBC 16-18	Hb. 74% RBC 3.7	Urea 13	N.D.	N.D.	Decreased on physical examination	Lost 4 lbs. by the 3rd day		Discharged 6th day Urine since cleared

mentation rate were found in all the cases. The venous pressure was found to be elevated in all the four cases in which it was done. Similarly, vital capacities were done on three cases and in each one it was diminished. Circulation times were within normal limits in the three cases in which it was done.

With the assumption that congestive failure existed, the patients were rapidly digitalized with digitoxin and put on a maintenance dose. The following changes were noted. All the patients had a rather dramatic subjective improvement in 24 to 48 hours after digitalization. In this same period they all experienced a diuresis. Along with this diuresis, a pronounced drop in weight occurred as well as a marked subsidence of the edema. In the four cases in which orthodiagrams or six foot x-rays were done following the digitalization, all showed a decrease in size. In one case the vital capacity, venous pressure and circulation time were repeated, and the vital capacity increased, venous pressure fell, and the circulation time decreased slightly. In one-half the cases the red blood cell and hemoglobin increased, suggesting that a hypervolemia had existed before. In the few cases that had an azotemia the blood urea fell to normal. The sedimentation rates began to fall in a few days and the urines to clear. The blood pressures began returning to normal from the fourth to the seventh day. All these changes gave the clinical impression that digitalization caused a compensation of the congestive failure that resulted in a more dramatic improvement than would otherwise be expected. Therefore, it is felt that digitalis is of considerable value in the treatment of acute nephritis.

All the patients were treated in the usual manner of forcing fluids orally, salt free diet[6,7], adequate proteins, bed rest, mild sedation, and magnesium sulfate when indicated in addition to digitalis.

Summary of the cases is found in the following chart.

Interpretation of Symbols:

V.C.—Vital Capacity
V.P.—Venous Pressure
C.T.—Circulation Time (arm to tongue)
Hb.—Hemoglobin
Alb.—Albuminuria
U.R.I.—Upper Resp. Infection
MgS04—Magnesium Sulfate
S.R.—Sedimentation Rate (½ hr. and 1 hr.—Wintrob)
B.P.—Blood Pressure
N.D.—Not Done
I.V.P.—Intravenous Pyelograms

DISCUSSION

From the observations made on these patients certain inferences have been drawn. Congestive failure of some degree is usually present in acute nephritis. Probably the hypertension is a large factor in producing this[3]. Also, the diseased kidney is unable to excrete sodium chloride as the normal kidney would, resulting in salt retention. This causes an absorption of more water into the extracellular spaces[6,7] with resulting edema and possibly a secondary hypervolemia. This adds an additional load on the heart, already somewhat embarrassed by the edema and the disease process. A generalized vasoconstriction exists and this also possibly involves the coronary arteries, for LaDue has reported electrocardiographic changes representing myocardial ischemia[5]. The striking observation that the circulation time is not prolonged suggests that the heart failure is similar to that found in beriberi heart disease.

In adding digitalis to the therapeutic regime of acute nephritis it is felt that compensation occurs, since all the patients responded rather dramatically with decrease in symptoms, diuresis, and loss of weight and edema. The studies of the heart size and shrinkage after digitalis as well as the circulation studies also seem to indicate this. Of course, the limitation of salt, forcing of fluids[6,7], and rest are of considerable aid to the state of compensation.

Although the mercurial diuretics have never been tried here, speculation as to their value can be made. They allegedly have their effect by giving off a few mercuric ions to depress the reabsorption functions of the tubules[9], thus causing a diuresis. Many people have been given frequent doses of mercupurin over a long period of time with no untoward effects. Autopsies done on such people have showed no signs of tubular or kidney damage. The reports of fatal mercurial poisoning[10] following the use of mercurial diuretics have been extremely rare[11,12,13]. In fact, the mercurial diuretics have been used with benefit on the edema of the nephrotic stage[8] of chronic glomerulonephritis without any known effects. In acute nephritis the extent of tubular involvement is not known, but relatively few changes are seen microscopically[1]. No one has ever definitely shown that they will be further damaged by the mercurial diuretics. Now, if the kidneys will not be further damaged, why shouldn't the mercurial diuretics be of great value in promoting a diuresis with resulting loss of edema fluid as they are in ordinary congestive heart failure? Of course, massive doses might conceivably be harmful and in the presence of severe oliguria or anuria the drug would be contraindicated, as it would not be excreted.

This is not meant to be a thorough study on this disease and the effects of digitalis in it because of the lack of facilities, nor is it a large enough series to be significant. However, the results seem to indicate that congestive failure does exist in most cases of acute glomerulonephritis and should be treated with all the weapons available.

SUMMARY

It is suggested that a major cause of edema in acute nephritis is congestive failure and that the edema often clears up dramatically following digitalization. The mechanism of failure in this condition is discussed.

BIBLIOGRAPHY

1. Fishberg, A. M.: Hypertension and Nephritis, Fourth Edition, 1939.
2. LaDue, J. S.: The Role of Congestive Heart Failure in the Production of Edema of Acute Glomerulonephritis. *Ann. Int. Med.*, **20**:3, March, 1944.
3. Warren, J. V., and Stead, E. A.: Protein Content of Edema Fluid in Patients with Acute Glomerulonephritis. *Am.J.M.Sc.*, **208**: Nov., 1944.
4. Warren, J. V. and Stead, E. A., Jr.: Fluid Dynamics in Chronic Congestive Heart Failure. *Arch. Int. Med.*, **73**: Feb., 1944.
5. LaDue, J. S., and Ashman, Richard: Electrocardiographic Changes in Acute Glomerulonephritis. *Am. Ht. Journal*, **31**: June, 1946.
6. Schemm, F. R.: High Fluid Intake in Management of Edema, Especially Cardiac. *Ann. Int. Med.*, **17**: Dec., 1942.
7. Schemm, F. R.: High Fluid Intake in the Management of Edema, Especially Cardiac Edema. *Ann. Int. Med.*, **21**: Dec., 1944.
8. Departments of Pharmacology—Cornell University, Medical College and the New York Hospital: The Use of Mercurial Diuretics: Conference on Therapy: *New York State Journal of Medicine*, **46**:1, Jan. 1, 1946.
9. Goodman, Louis, and Gilman, Alfred: The Pharmacological Basis of Therapeutics, 1941.
10. Waife, S. O., and Pratt, P. T.: Case of Fatal Mercurial Poisoning Following Prolonged Administration of Mercurophylline. *Arch. Int. Med.*, **78**:1, July 1946.
11. Higgins, W. H., Acute Toxic Effects of Mercurial Diuretics. *J.A.M.A.*, **119**:15, Aug. 8, 1942.

12. DeGroff, A. M., and Nodler, J. E.: A Review of the Toxic Manifestations of the Mercurial Diuretics in Man. *J.A.M.A.*, **119**:13, July 25, 1942.

13. Massachusetts General Hospital, Case 31451: *New England Journal of Medicine*, **233**:562-570, Nov. 8, 1945.

14. Davis, J. H., and Faber, H. K.: The Prognosis in Acute Glomerulonephritis in Children. *Am. J. Ped.*, **27**:5.

Skin Eruptions Often Develop From Drug Applications.

Skin eruptions are often caused by drugs used to correct an existing disorder, according to an article by Lester Hollander, M.D., Pittsburgh, in the current issue of *Hygeia*.

"It is common knowledge among skin specialists," Dr. Hollander asserts, "that both externally applied and internally administered drugs can cause a great variety of skin eruptions.

"Since the actual cause of an eruption is increasingly more difficult to identify as its duration lengthens, and since certain eruptions may precipitate chronic organic damage, physicians have to be on the alert for them. The source of a blistery eruption of the hands and feet or a diabolic nocturnal itch is more often found in the consumption of proprietary [patent] medicines." Cold remedies, headache cure-alls and cathartics are among the most common remedies causing skin disorders, the doctor states.

"The kingpin among the many-purposed vitamin B complex groups, thiamine chloride or B_1, not infrequently causes a skin eruption. At times the benefits of vitamin B are nullified by the inconvenience, insomnia and nervousness caused by the vitamin itch.

"You can accept it as axiomatic," the article continues, "that any skin disease or eruption which becomes increasingly annoying after the use of a local application is being irritated and not helped by it—even if its 'purity' and 'non-irritating' qualities are certified by movie stars, golf professionals or any such disinterested, self-sacrificing people. Of all these nostrums the so-called athlete's foot remedies are the most noxious."

Penicillin Lozenges May Be Cure For Diphtheria Carriers.

Encouraging results from penicillin administered locally in the treatment of carriers of virulent diphtheria are reported in the March 27 issue of *The J. A. M. A.*

A carrier is a person with no visible sign of the disease but who has the diphtheria bacilli in his throat and transmits them to others.

Administration of penicillin intravenously is of little value, but when it is administered either as a lozenge under the tongue or as a spray it has shown good results, the article states.

The author, Dr. A. J. Levy, Dixon, Ill., points out that while this form of penicillin administration for diphtheria carriers is still in the experimental stage, the results of the four cases reported may serve "to further the study of the effect of penicillin administered locally in the treatment of diphtheria carriers.

"This was found to be more effective because it seems the lines of attack were directed to the affected areas," the doctor writes.

"It is believed that for acute cases as well as for the carrier state the parenteral [intravenous or intramuscular] method of penicillin administration was of little value.

"When penicillin was used locally in the form of lozenges and spray, it was found in this limited study to be successful in the treatment of carriers of virulent diphtheria within one week, and the patients remained free from diphtheria even a year after the study was made."

SINUSITIS*

F. V. GAMMAGE, M. D., F. I. C. S.
Grundy, Virginia.

Sinusitis, or sinuitis, as the late Dr. Joe Beck would insist, is a concept practically unknown a generation ago. However, today the average patient is, to say the least of it, sinus conscious. Indeed, it is a most unusual day when several patients do not present themselves at the office with the ready made diagnosis of "sinus". This usually turns out to be the "postnasal drip" which Proetz[1] calls "the current American nightmare". Our grandfathers called it "catarrh"; their grandfathers, "defluxation." Before, it was a "rheum." Because patients in all walks of life and levels of intelligence have lately elevated a disagreeable symptom to a serious affliction and come in numbers for relief, it seems well to consider the nature, causes and effects of these post-nasal discharges. Actually the only type of discharge capable of endangering health is one carrying virulent organisms; this is relatively uncommon.

Among etiological agents are central heating, tobacco smoking, alcohol, thermal changes, local mechanical abnormalities, non-malignant lesions, dusts, fumes, bacteria and viruses, fungi, allergens (inhaled or ingested), atrophy, foreign bodies, malignancies, metabolic upsets and disturbances of elimination, endocrine disturbances, emotional disturbances and excessive and prolonged medication. However, upon investigation we find anything from acute rhinitis to cancer of the larynx. Sinusitis *per se* remains a very difficult problem. In very fact, every case of the common cold is also a case of sinusitis, for the Schneiderian membrane is continuous with the sinus membranes through the ostia.

As we look into the nose of the ordinary cold, we see a red, turgescent membrane that occludes the nares. This same condition prevails in the sinuses to the point in many cases of obliterating the lumina completely. Fortunately, in many cases, with the so-called breaking of the cold, not only the membrane within the nose proper resolves itself but that within the sinuses also resolves itself and the patient recovers.

ANATOMY

When one considers the anatomy of the sinuses there is small wonder that complications can and only too often do arise. There are the 2 frontal sinuses, one on either side of the mid-line, lying between the 2 plates of the frontal bone and emptying into the middle meatus. Next, come the anterior ethmoid cells, consisting of the agger nasi cells which lie just anterior to the anterior attachment of the middle turbinate. Posteriorly and laterally lie the infundibular cells, 1-4 in number. Mesially are the frontal recess cells, 2-3, opening into the frontal recess. Posteriorly the bulla or middle ethmoidal cells, 1-4, open into the bulla recess. The frontal and anterior ethmoidal cells all empty into the middle meatus, as does also the largest sinus of all, which may be double, lying in the body of the maxillary bone and called the antrum of Highmore.

Posteriorly are the posterior ethmoidal cells from 1-3 that open into the superior and supreme meati when the latter are present. These tend to ramify and may extend to the frontal, ethmoidal, antrum and sphenoidal regions.

Last, but not least, are the sphenoidal sinuses in the anterior half of the central portion of the sphenoid bone and opening into the sphenoethmoidal recess. Adding up, we find frontal 2, agger nasi 4, infundibular 8, frontal recesses 6, bullae 8, posterior ethmoid 6, antrum 2, sphenoid 2, a total of 38 cells[2]. These cells are all contained in hard bony walls that are non-yielding, allowing of no collapsing with a possibility of complete drainage. These are also built for four-footed animals. When we stand upright only one of the frontal sinuses has a dependent ostium, allowing for drainage by gravity. The rest all have their ostia above their floors, leaving a cul-de-sac for the collections of secretions.

The nasal passages and sinuses are all lined with ciliated epithelium, those of the sinuses beating toward the ostia through which the secretions are thrown into the nose, while those of the nose all beat posteriorly where the secretions are thrown into the nasopharynx and then into the pharynx where they may be expectorated or swallowed. Proetz, among others, has done much research work on the action of these cilia and has stressed the importance of preserving the physiological activity of these cilia.

*Read before the Buchanan-Dickenson County Medical Society, May 23, 1947.

It is upon the perfect functioning of these cilia that depend the removal of bacteria, pus, dirt, and all noxious material from the sinuses and nares. It has been found that most medicines that are in ordinary use in nasal drops and sprays are injurious to these cilia and prevent their action in removing infection. Notable exceptions to these are ordinary saline solutions and 1% ephedrine solutions or sprays.

ETIOLOGY

Much has been said of the common cold, which costs the country 53,376,000 man-days and $3,000,000,000 per year. The prompt treatment of the common cold will eliminate the majority of sinus affections. The best way to treat it is by treating it as a major disease, rather than as a minor infection as we are so prone to regard it. The proper place for the patient who has caught a fresh cold and is all stopped up, not being able to breathe through the nose, has a headache, no appetite, lacrimation, malaise, etc., is in bed. If this single precaution were observed, 90% of the battle for the cure of the cold would be won, for the medical treatment is, to say the least of it, chaotic. We all have our pet cold cures, putting our faith in drugs, sprays, vapors, hot or cold drinks—not to mention the good shot of whisky which, 9 times out of 10, makes an already bad matter worse by causing added congestion and irritation to an already super hyperemic and irritable nasal membrane.

The pH of the nasal medication is important. They must be isotonic, and of optimal pH 5.7. This aids and not hinders the action of the cilia which is the all important factor in the elimination of the noxae from the nasal mucosa.

Since the cause of the common cold is not a bacterium that we can see and isolate, but is an unknown virus, no specific is known for it. The U. of Oxford in England is carrying out extensive research in order to determine the exact cause of the common cold. The sulfonamides and penicillin have no effect upon it.

Repeated attacks of the common cold predispose to sinusitis. If a cold does not clear up, other bacteria enter upon the picture. These bacteria cause sinusitis. The virus may have started the sinusitis in the first place, but it is quickly replaced by the pus-forming organisms and these are the things that we demonstrate under the microscope from the washings of a sinus when it becomes necessary to operate. Although sinusitis may be primary as, for instance, from diphtheria, influenza, croupous pneumonia and erysipelas, nevertheless it is usually secondary to some intranasal infection, e.g., the common cold and such diseases as scarlet fever, measles, smallpox, tuberculosis, typhoid fever, and cerebrospinal fever[3], not forgetting dental infections.

ALLERGY

This is an ever-broadening field and no one knows the dividing line between infection and allergy, so much so that a bacterial allergy is now accepted. In actual practice infection and allergy overlap so that it is not always easy to tell whether we are dealing with an allergy of the nose or an infection. While the clinical tests for allergy are complicated, time-consuming and not altogether reliable, there is now the possibility of a simple blood test replacing the hundreds of scratch or intradermal tests necessary to try to determine the cause of the allergy. This makes of it a routine laboratory test and the resulting clinical procedure is based upon the similarity of the clinical signs of allergy with those of histamine[4]. Advanced allergic processes overlap infectious processes with the admixture of bacteria and pus and the formation of polyps. An outstanding piece of research work on the polyp has been done by Robison[5], who reasons that the polyp is a defensive organism and undertakes to insert an artificial polyp in the form of a dilatable rubber bag into the antrum with the object of pressing out the serum from the water-logged mucous membrane, thereby bringing it back to normal.

TREATMENT

The basic principles underlying the treatment of sinusitis are the establishment of proper aeration and drainage. Medically this is usually brought about by the intranasal use of astringents such as cocaine, adrenalin, ephedrine, etc. These are either applied directly to the nasal cavity by the physician or in the form of drops or sprays by the patient himself. Dehydrating agents such as glycerine, usually combined with antiseptic drugs such as argyrol, iodine, ichthyol, etc., are applied in the form of intranasal packs, combined with the use of the infrared lamp over the facial area. This causes the flow of a vast amount of serum from the nasal cavities, tends to deplete the engorged tissues and opens up the ostia of the sinuses thus permitting free drainage therefrom. The Proetz treatment of the head-

low position while patient rarifies the air in his nasal cavities permits of the introduction into the sinuses of medicinal agents, normal saline solution with ephedrine ½%, the sulfonamides, penicillin, etc. Aerosols[6] are the latest method introduced for the treatment of sinusitis. This consists of a fine spray forced under pressure, usually of an oxgyen tank, into the nasal passages. Various drugs are used, especially the sulfonamides and penicillin. Aerosols are useful in sinus, laryngeal, tracheal, bronchial and pulmonary conditions such as pneumonia and bronchiectasis.

Crowe[7], of Johns Hopkins, has used radium for irradiation of the nasopharynx for the past 20 years in the treatment of upper air passage infections, otitis media, sinusitis, bronchitis, etc. His object is to remove by radium the obstructing lymphatic tissue in the nasopharynx that is not amenable to surgery but harbors infection and obstructs the choanae and the eustachian tubes. This method is particularly useful in the prevention of aerotitis, deafness in children, besides eliminating a cause of sinusitis.

SURGERY

Surgery is like fashions. The pendulum swings back and forth according to the trends of the times. Twenty years ago if a patient went to the office of the rhinologist he was lucky if he got out without a submucous resection, removal of a turbinate or two, or at least a vigorous cauterization of the overlying mucosa. However, the results of ill-advised intranasal and sinus surgery have become so evident that the pendulum has swung to the conservative side. We are all familiar with the picture of the ragged interior of noses that have been subjected to one so-called sinus operation after another: the perforated septum, the saddle-back nose, the macerated turbinates, the gaping holes in the sinuses allowing the free entry of dust, dirt and infection, the heavy foul-smelling crusts and scabs that cling to the nasal mucosa to say nothing of terribly disfiguring scars over the brows as a result of the radical frontal sinus operation. The result is that today the role of major surgery in the treatment of infections of the paranasal sinuses has diminished to such an extent that one seldom sees the case that cannot be properly cared for by more conservative means[8].

Pursuant with our idea of establishing aeration and drainage in sinusitis, we try to remove all obstructions in the nasal cavities: septal obstructions, spurs, polyps, tumors, turbinal enlargements, never removing the inferior turbinates *in toto*. Sinuses are punctured and drained, windows are made under the inferior turbinates; in short, all minor surgical procedures are carried out first; then, and only then, is the last resort made to major surgery.

SUMMARY

Sinusitis is a comparatively modern conception but with almost universal dissemination. Its causes are legion and its aspects are protean. Among its causes are poor housing, improper heating, dusty and vitiated atmosphere, injudicious and inadequate diet, high pressure living, crowded conditions, etc. The common cold constitutes its most prevalent cause, with dental infections aiding. Treatment is based upon the primary principles of aeration and drainage of the respiratory passages. Overtreatment by the almost universal national habit of the use of nasal drops is to be deplored. Allergy plays a prominent role in its etiology, as does redundant lymphatic tissue in the nasopharynx which is best removed with radium. The aerosols constitute a new major addition to our therapeutic armamentarium. Conservative measures of intranasal shrinkage and medication and the removal of minor obstructions, such as septal deflections, enlarged turbinates, polyps, tumors, crusts, scabs, foreign bodies, etc., should be given a reasonable trial before resort should be had to major surgery.

REFERENCES

1. Postnasal Drip—The Current American Nightmare. Arthur W. Proetz. *Annals Otol., Rhin. and Laryng.* **54**:739-746, Dec., 1945.
2. Intranasal Surgery. Fred J. and John A. Pratt, 1925, F. A. Davis Co., Phila., Pa.
3. The Accessory Sinuses of the Nose. Ross Hall Skillern, Fourth Edition. J. B. Lippincott Co., Phila. and London, pp. 35-37.
4. Evaluation of Allergen Diagnosis. James C. Healy, *Annals of Otol., Rhinol. and Laryngol.* **55**: No. 4, 871, Dec., 1946.
5. Physiology and Functional Pathology of Lymphatic System Applied to Allergy of Nose and Paranasal Sinuses. J. Mathews Robison, *Journal of Allergy* **17**:53-69, March, 1946.
6. The Use of Penicillin Aerosol in Bronchopulmonary and Sinus Infections. Alvan L. Barach, Bettina Garthwaite and Colter Rule. *New York State Jour. of Med.* **46**:1703-1713, Aug., 1946.
7. Irradiation of the Nasopharynx. Samuel J. Crowe, *Annals Otol., Rhinol. and Laryngol.* **55**:779, Dec., 1946.
8. Major Surgery of the Suppurative Paranasal Sinuses. Claude D. Winborn, *Texas State Jour. of Med.* **42**:434-436, Nov., 1946.

PUBLIC HEALTH

L. J. ROPER, M.D.
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for April 1948, as compared with the same month in 1947, and for the period of January through April 1948 compared with the same period in 1947, is as follows:

	April 1948	April 1947	Jan.-April 1948	Jan.-April 1947
Typhoid and Paratyphoid Fever	11	5	41	22
Diarrhea and Dysentery	271	349	1,189	1,363
Measles	656	1,404	2,714	4,780
Scarlet Fever	90	120	431	658
Diphtheria	12	18	83	108
Poliomyelitis	3	0	7	12
Meningitis	11	13	36	46
Undulant Fever	8	7	29	16
Rocky Mountain Spotted Fever	0	0	0	1
Tularemia	1	0	20	26

MALARIA IN VIRGINIA

Many Virginia physicians will recall previous years in which malaria was frequently encountered in their practice, but know now that the disease has declined to the point where it can be considered a comparative rarity. Morbidity reports for the five year period 1915-1919 show an average annual incidence of 8378 cases with an estimated attack rate of 373.1 per 100,000 population. In comparision an average of 114 cases and an attack rate of 4.3 are observed during 1938-1942 period. Unfortunately, increased prevalence developed during 1943-1947 in which average annual incidence amounted to 456 with a rate of 16.7. It is worthy of note that 1807 or 79.2% of cases reported during this period were males of military age and it is, therefore, assumed that the majority of these were infections acquired overseas. It must be remembered that each case represents a potential reservoir of infection and that spread may occur whether the source is local or elsewhere.

It has been shown that the mosquito—anopheles quadrimaculatus—is responsible as the insect vector of most malaria cases throughout the nation. Distribution of this mosquito in Virginia is widespread, being observed almost wherever impounded water is present. Concentration, however, is most marked in the triangular area between the counties of Pittsylvania, Arlington, and Princess Anne. During the past eight-year period cases have been reported from all of the larger cities and 93 of the 100 Virginia counties. This distribution normally would be expected since the majority of infections were of military origin. Concentration of cases is observed in those counties in which military hospitals are operated with report made from such institutions.

The state and local health departments are concerned with the increased prevalence of malaria in order that all practicable steps in control may be taken. It is, therefore, urged that all physicians report their cases providing the following information: Name of case; address; age, sex and color; military origin of infection; source of infection; type of malaria.

MEDICAL SOCIETY OF VIRGINIA COUNCIL

Called Meeting
April 28, 1948

Upon request of some members, the Council and Legislative Committee held a joint meeting at the Society's office on April 28, 1948, at 4:00 P.M., with the President, Dr. Guy R. Fisher, presiding. Others present were: Drs. M. P. Rucker, W. L. Powell, F. A. Farmer, Guy W. Horsley, J. L. Hamner, W. A. Porter, W. R. Whitman, V. W. Archer, James P. King and L. J. Roper of the Council; Drs. W. C. Caudill, J. D. Hagood, D. B. Cole, Carrington Williams, J. R. Gorman and C. C. Smith of the Legislative Committee; Mr. R. C. Duval, attorney; Mr. Henry S. Johnson, director of Public Relations; Dr. W. B. Blanton and Dr. J. P. Williams.

Dr. Fisher explained that the meeting had been called as there was a desire on the part of some to have a discussion of medical matters which had come up during the last General Assembly, and asked Mr. Johnson to tell something of the work accomplished. Mr. Johnson said he felt the Council would like to know the opinions of the members of the Legislative Committee who were also in the Senate and had worked hard for the passage of bills to uphold educational requirements. Upon his suggestion, Dr. Fisher called upon Dr. Caudill, chairman of the Legislative Committee, who told of the united support given by doctors of the State and said he felt the members of the General Assembly now had a more kindly feeling toward the medical profession than ever before. Then followed a general discussion in executive session after which recess was taken for dinner.

Upon resuming business, Dr. Fisher said when he heard it had been recommended by the Committee on Reorganization of State Government to place the Medical Examiner System under control of the Police Department as an economic measure, he at once reactivated the Society's Committee on Medical Examiner System, Dr. Wyndham B. Blanton, chairman, and gave him authority to secure any help necessary to prevent this move, and asked Dr. Blanton to report on this. Dr. Blanton said it soon became apparent that the System would have to be placed under some State Department, and, with the help of the Legislative Committee and Mr. Duval, his committee had succeeded in having it placed under the State Health Department. He said Dr. Breyfogle, State Medical Examiner, is one of the best men in his line in the United States, and felt the Council should know he is well recognized and had been asked by the American Medical Association to report on the system in Virginia. Dr. Archer thought the profession would be interested in knowing more of Dr. Breyfogle's work and suggested that he be asked to write an occasional article on his work for the MONTHLY. Dr. Rucker suggested that this request be sent him from the Council, following which motion was made and carried that Dr. Breyfogle be requested to write some articles for the journal. Drs. Blanton and Roper were asked to suggest subjects for these articles.

The President then asked Dr. J. Powell Williams for a report on the recent conference sponsored by the A.M.A. in Chicago on National Emergency Medical Service, which he attended as representative from the Medical Society of Virginia. Dr. Williams gave a very full report (appended to these minutes), and stressed the need for preparedness as emphasized at the conference. The delegates were urged to see that the various states had civilian defense councils formed and they be instructed fully as to what would be expected of them. He learned that Virginia had not appointed such a Council and he was requested to see Governor Tuck and explain to him the urgency of appointing a council on civilian defense.

The secretary stated that since buying fifty copies each of Medicine in Virginia, 18th and 19th Century volumes (reported at the last Council meeting), Garrett and Massie had advised they wished to dispose of the remaining lot—approximately 470 each of Medicine in Virginia in the 18th and in the 19th Century, for which they had been offered a dollar each, but would sell to the Society at 90 cents a copy. They also had about 400 books (18th Century) in folded sheets at L. H. Jenkins for which they had been offered 25 cents a copy but would sell to the Society for 20 cents each. They advised further that L. H. Jenkins would store the lot for the Society at $2.00 a month. They would give the Society option on these until May 1st, after which they would dispose of them to a firm out of the State. It was moved and seconded that the Society buy all of these books and sell the bound copies at $1.50 each and the unbound copies at 50 cents each.

A button was shown which had been received from jewelers who make them for the Indiana State Medical Association to be given their members who have practiced for fifty years, to see if this Society would be interested in securing some. It was noted that a number of State Medical Associations are starting what is known as "Fifty Year Clubs" and it was felt this Society might also take some special recognition of these members by awarding them an appropriate certificate and Dr. Wyndham Blanton was asked to decide upon the wording on these certificates.

Dr. Fisher said he was recently advised that the Maternal Health Committee wished to make a special survey on maternal deaths and he had authorized the executive secretary to pay what is necessary for postage and forms for this work up to $75.00, in addition to the amount allotted this committee in the budget. He felt no action

was necessary in regard to this but wished the Council to know it had been done.

He stated also that the secretary had advised him that no amount had been included in the budget to cover expenses for her and the assistant secretary to attend the A.M.A. meeting, the estimated cost for which would be $275.00 to $300.00 for the two. As other societies are sending several representatives, Dr. Fisher felt this Society should send them. Dr. Archer moved that a sum sufficient for their expenses in attending the meeting in June be appropriated. Seconded and carried.

The question being asked if doctors had been advised of the new law requiring their registration each year, effective July 1st, motion was offered and carried that Dr. K. D. Graves, secretary of the State Board of Medical Examiners, be requested to write a letter or article for the June MONTHLY, reminding doctors of this registration and giving something of the mechanics of the plan.

Dr. Archer said there had been criticism of the Society from some sources for not inviting colored physicians to their scientific sessions and exhibits. Dr. Horsley said several local societies invite colored physicians to their scientific sessions and he felt this was a question to be considered. The question being asked if the hotels would object, it was stated that both the John Marshall in Richmond and Hotel Roanoke objected to this. After discussion, it was decided this is a matter to be submitted to the House of Delegates and a motion to this effect was adopted. It was felt this could be brought up at the Sunday evening meeting of the House of Delegates in time to have action for the 1948 meeting.

A letter from the American Association of Blood Banks, asking for the endorsement of the Society and suggestions for cooperation and assistance, was ordered referred to the House of Delegates.

Dr. Hamner said the Virginia Section, American Academy of General Practice, would appreciate the Society's endorsement of that organization as they are working to improve the status of the general practice of medicine. No action was taken as discussion brought out the fact that a number of other special societies met at the same time as the State Society but it had not been felt necessary to endorse the work of any of them.

Dr. Fisher told of the Rehabilitation Center which had been established at the former Woodrow Wilson Hospital in Augusta County and said it offered wonderful possibilities for the physically handicapped. It is operated by the State Board of Education and the Society's Committee on Rehabilitation cooperates with it. In connection with this, there is a high school on the grounds with a vocational department. Through this institution, Virginia is doing a magnificent work and he asked the Councilors to visit the institution and to tell their people back home about this Center. In answer to a question, he said the patients have to be ambulant.

Dr. King said at a District Council meeting recently held in Marion two suggestions were made in regard to Public Relations work:

1. That a mimeographed page be sent monthly to all members in the State; and

2. That there be a more liberal use of the pages of the MONTHLY by the Public Relations Department.

Dr. Horsley said the State Board of Medical Examiners receives a large number of requests for doctors in rural sections, which is one of the reasons they had in asking for the registration of physicians. Many A-class schools have been stressing specialization among their students but they should encourage them to go into rural districts or there will be legislation to enforce this. Dr. Archer said that, starting in 1949, the University is putting on a two-year general practice rotating internship in small hospital of the State and the idea of specializing is now being discouraged at the University of Virginia. Dr. Rucker, recently returned from an Alabama meeting, says that State has already started the two-year rotating general practice internship in its smaller hospitals.

Adjournment followed.

AGNES V. EDWARDS,
Secretary.

Approved:
GUY R. FISHER,
President.

National Emergency Medical Service*

The Council on National Emergency Medical Service met in the American Medical Association Auditorium, Chicago, April 5, 1948, with Dr. James C. Sargent presiding. There were representatives from 41 states and from all the national organizations of specialties. Dr. Bortz, President of the A.M.A., was also present as a representative of the Board of Trustees.

The first part of the meeting was taken up with a history of the appointment and organization of the Council, and of designation of its consultants (Paullin, Morgan, Reese, Lyons).

Efforts to coordinate Council activities and planning with those of the Federal Government had been without results because Mr. Russel J. Hopley had just been appointed to head up Civilian Defense under the National Security Resources Board, and had not yet appointed his medical member who would probably be named by the A.M.A.

The work of General Hawley's committee in attempting to coordinate the medical services of the Armed Forces with consequent elimination of inefficiency, duplication, and waste in personnel and materials was discussed generally but no details were available. He had been offered all of the facilities and assistance of the A.M.A.

Prior to Mr. Hopley's appointment, Mr. Forrestal had set up within the defense framework a board under the chairmanship of Mr. Gray (Army) to collect data and keep him advised as to Civilian Defense needs. This board had directed an inquiry to the Council as to its

*Report referred to in Council Minutes.

policy for civilian components of National Defense. The reply was in effect:

1. Experience of the past war was of a complete lack of coordination of procurement among the various services which resulted in competition among themselves with consequent failure of full utilization of available professional man power and needless deprivation of the civilian front.

2. That before the inquiry could be intelligently answered, the basic policy of military planning must first be defined.

3. That the allotment of civilian medical resources in long range planning should be a joint project of both civilian and military authorities.

4. That the A.M.A. would cooperate fully both in the development and in the execution of such a plan.

Also prior to Mr. Hopley's appointment, a "Study of Civilian Defense" had been completed for the President by a board headed by General Bull and this is available for local guidance and planning at small cost from the Government Printing Office.

Dr. Meiling reported that he had sent out for the Council inquiries to the Governors of all States and Territories as to their local planning for Civilian Defense. Copies of these letters had also been sent to the Secretaries of State Societies. He had received replies from 41 States, only 7 of which had plans actually set up and ready to function. About 20 had plans on paper but no actual organization. The others had no plans. Virginia was one of the 11 States which had not replied at all. None of the Governors reporting plans included a representative of the medical profession. The Council advised that State Authorities be urged to include medical representation in their Civilian Defense Councils.

Dr. Diehl of the U.S.P.H.S. gave a detailed report of its facilities and functions in time of peace and war. (When the Coast Guard and U. S. Maritime Service join the Navy in war, their hospital system goes with them.) They have about 200 Sanitary Engineers, many of whom accompany the Army. He called attention to the fact that in World War II, the Armed Services had taken 40 per cent of medical man power to take care of 9 per cent of the population, leaving only 60 per cent for care of civilian population, thus increasing the patient load by 75 per cent.

In report of a recent survey, Dr. Parran, who has just retired, estimated that by 1960 there would be a shortage of 40,000 to 50,000 doctors in the United States. This estimate was arrived at by applying the ratio of doctors to population in the upper 25 per cent of the states to the lower 75 per cent. Both Dr. Diehl and the new Surgeon General felt that it was not fair to take the ratio of the upper 25 per cent as optimal since it was known that in these densely populated states the saturation point for doctors had been exceeded and many were having a hard time. He states that in Sweden, one of the most enlightened countries medically with statistics which equal or exceed ours, the ratio is 1:2000 and the goal which they have set for themselves is 1:1000. Our ratio at present is 1:742 since we have nearly 200,000 doctors. About 20 per cent of ours are not in active practice but the same holds true for the Swedes and their total figures are used in calculating their ratios.

A fairer assumption would be that if we had enough doctors during World War II, we have certainly gotten no worse off.

1. The speeded-up program gave us 7,000 more doctors during the war period than we normally would have had and losses were increased to a negligible extent.

2. In addition, the normal accretion of 2,000 annually proceeded.

3. A number of new schools have been started which will bear later fruit.

4. Many doctors separated from Armed Forces are still in Residency Training and are not yet available.

5. ASTP's and V 12's are still completing service requirements and will return in large numbers soon.

Any program which would at this time increase the number of doctors either by "speed-up" or by subsidized scholarships from the Armed Services would lower the per capita earning capacity of the profession.

Dr. Anderson, Secretary, Council on Medical Education and Hospitals, agreed with the above. He stated that his Council felt that such recruitment by the Armed Forces should be carried on *after graduation* by fellowships and other inducements for special training.

Dr. Stafford Leak Warren, Dean, School of Medicine, University of California, and in charge of Radiological Security for Bikini and Crossroads, showed movies of Hiroshima and Nagasaki, especially clinical cases and autopsy material. Most of what he said had been published previously and will not be repeated. He referred to his own article in "Air Affairs, March, 1947, page 347", as containing all information as yet released about medical aspects of atomic warfare. This will be mimeographed and sent us by the Council.

The only things which were new to me were:

1. We are *still* without any adequate defense.

2. Radioactive particles can be transported long distance in dust clouds (dust bowl). Dr. Warren flew through a dust cloud over Colorado recently for 500 miles.

3. This dust will settle to earth, contaminating soil and water with minimal amounts of radioactive material which because of dispersion, offers no direct threat to life or health (less than 1/10 R-unit daily).

4. We also know that plants growing in a soil of minimal contamination will concentrate radioactive elements, having long half-life (Strontium) 100,000 to one million times. (Examples of this: a. The publicized use of wheat straw from such a contaminated soil, many miles from the point of explosion of the first atomic bomb in southwestern desert, for the manufacture of the cellulose product for x-ray films. All the films were ruined. b. Some of the vessels at Bikini seemed to get more rather than less radioactive as time went on attributed to concentration of radioactive material of the water by algae growing on the bottom. The worst of these were towed out to sea and sunk.)

This brings up the question of what would happen to the population generally in case of widespread contamination of the soil and water that produce our food. Would the long range constant exposure to small amounts of radioactivity be dangerous? It is feared that it would since these materials tend to be concentrated again in the blood-forming organs where they do the most harm. Aplastic anemia which is now a rarity would almost certainly become one of our most common diseases, and up to the present time, our only method of treatment is frequent transfusions. It is even conceivable that it might become difficult to find donors who can spare blood.

5. Though as stated before, there is no adequate defense against the "Gamma Rays", it is nevertheless a fact that many survivors with sublethal exposure can be saved who would otherwise die for lack of care if a proper defense plan is worked out ahead of time.

In Nagasaki, the Medical School was 2,500 yards from the epicenter of the explosion. Though the walls still stood, there were no survivors, 600-800 corpses were still lying around the rooms and corridors a month or six weeks after the disaster. It is probable that many of these would have lived had help been available within 24 hours, but the lack of plan and organization to bring in help from outside or to evacuate, trebled or quadrupled casualties. This also exemplifies how utterly helpless the stricken locality may be.

Dr. Warren later showed another talking movie on "Radiological Security" which brought out the following facts:

1. There were about 200,000 people working on the Manhattan Project and many more thousands involved in the South Pacific tests.

2. The radioactivity released at each of the bomb explosions was equivalent to that from 1,000 or more *tons* of radium.

3. In spite of this tremendous hazard, not one single person was injured.

4. The means of preventing harmful exposure were chiefly thoroughly trained "monitor" crews which preceded working parties in every locality. These crews were armed chiefly with Geiger counters and ionization chambers (R-meters). In addition, each individual exposed (monitors and workers alike) carried "dosimeters", instruments which measured cumulative exposure in fractions of an R-unit. All instruments were turned in each night, readings recorded, and recalibrated for the next day's use. Only a very few, chiefly "monitors", received sufficient exposure to warrant evacuation off the project to the United States and as stated before, none of these has shown subsequent ill health. The maximum allowable dosage was 0.1 R-units a day. If the recorded dosage exceeded this amount for several days, the investigator was ordered off the project for a rest period.

5. In addition to this, each person working in a doubtful area carried a patch of unexposed film which could be developed and processed so as to give quantitative information as a check on the dosimeter. This picture was obviously shown to demonstrate in a striking way what could be accomplished in exposed areas in time of disaster by proper preliminary organization, discipline, training, and materials.

Dr. Herman S. Wigodsky, Professional Associate of Committee on Atomic Casualties (National Academy of Sciences), was conducting a long range study of the effects of exposure to radiation. The survivors of Hiroshima were being followed very carefully from the standpoint of Public Health and Vital Statistics. Comparable records were being compiled for the City of Kure, about the same size and character and with a non-exposed population as control. The Japanese are cooperating in this study. Some of the answers as to the effect of long-term minimal exposure from soil and water may come out of this.

Capt. George W. Lyons, MC-USNR, Chief of Radio Isotope Section of VA, was scheduled to talk on "Biological Warfare", but this subject was apparently too hot for discussion at the present time so the subject was changed to "Chemical". He mentioned the "Bull Report" (Study of Civilian Defense) as an excellent guide for planning. He also stated that the Germans had developed a gas toward the end of the war with a physostigmine-like action for which our gas mask offered no defense. It was absorbed through the intact skin and killed with vomiting, extreme myosis, and convulsions. It was never used probably because we had control of the air and retaliation even with older gases would have been terrific.

Dr. Hans H. F. Reese, Professor of Psychiatry, University of Wisconsin, had worked with Psychological Warfare Section during World War II. He discussed the extreme value of demoralizing the enemy and maintaining high civilian morale in modern warfare.

Dr. Edward L. Bortz, President of A.M.A., began by stating that he had previously been heartily in favor of U.M.T. as the only logical basis for total defense, but had recently become convinced that such a policy would be a waste of energy and resources which could be more effectively employed in other directions. (None of the many delegates with whom this proposition was discussed agreed with Dr. Bortz in his final conclusion, and in fact, all agreed the channels into which he would direct these energies and resources, enumerated below, could not possibly be so productive of results as with U.M.T. Had pressure of educators been too great?)

The things which Dr. Bortz felt to be important in development of a defense plan were as follows:

1. Development of a flexible and coordinating Disaster Administration with ramifications down to the lowest level.

2. Training of "monitoring" teams both in detection and security discipline.

3. Development of facilities for obtaining of vast amounts of blood and blood products on short notice with plans and facilities for delivering it to any point immediately on demand.

4. Dissemination of helpful and hopeful information on the civilian front with stern suppression of harmful

rumors and propaganda.

5. Education so as to develop a "nuts and bolts" attitude toward the atomic problem. This was accomplished on a large scale on the Manhattan Project and at Bikini and can be made nationwide. Our people work with high voltage electricity and in TNT plants for their daily bread and can be taught the same attitude toward the Atom. It must be brought down to earth from the stratosphere of the supernatural, mysticism, and the "end of the world" attitude, and faced along with other awe-inspiring natural phenomena.

6. A vigorous and unrelenting attack on all totalitarian ideologies with eradication of all such influences even in the smallest communities. At the same time, the whole country must be made to feel by comparison that our priceless treasures—freedom, the dignity of the individual, and the Bill of Rights—are worth any amount of suffering, privation, and sacrifice, so that when fighting is inevitable, they will carry on to the bitter end, and allow nothing to stop them short of complete achievement which has *not* been the case in either of our World Wars. The fight on the ideological level should be won before armies take the field, to insure complete victory.

The next order of business was a "Panel Discussion of Civilian Medical, Health, and Sanitary Problems in a National Emergency and Programs of Governmental and Civilian Agencies to Meet Them".

Dr. Perrin H. Long, a member of the Council, described the formation of the "Society of Medical Consultants of World War II". They meet with the Surgeon General for one day each month. He presents his immediate problems and they consult and advise. Two results of such consultation were cited:

1. A civilian (reserve) medical officer is placed on active duty for six weeks as Assistant to the Surgeon General's GI (Personnel) Section. Dr. Thomas of Johns Hopkins and Dr. Middleton of Wisconsin have already been assigned and others will follow.

2. There had been much complaint from doctors assigned to foreign duty that they were forgotten and neglected and had no teachers to develop them. Plans have been completed to have two distinguished teachers of medicine visit every medical installation in the European and Japanese Theaters each month, primarily for teaching ASTP's.

Dr. G. Foard McGinnes, Vice-President for Health Services, American Red Cross, outlined the organization of Red Cross and stressed the policy of cooperating with duly authorized local authorities in emergencies. Their organization was maintained in a state of readiness to meet disaster and could be mobilized at any designated locality on short notice. They are now in process of developing a nation-wide Blood Bank. The State of Massachusetts was the pilot project and is now completely organized, and in addition, seven large cities. The equipment and facilities in these centers is such that there can be a threefold expansion of output in time of dire emergency or war, simply by addition of trained personnel from local medical installations which has already been arranged for. This project has the backing of the A.M.A. and the House of Delegates has appointed a committee of five members who are in constant touch as advisors and as liaison with the local profession. This work will be speeded up and expanded as fast as local cooperation can be obtained.

There was no representative of the National Security Resources Board since Mr. Russel J. Hopley had just been appointed the day before and, of course, had not yet named the head of the Medical Section.

Lt. Col. Barnet W. Beers, Recorder for the Committee on Civilian Components, Office of the Secretary of Defense, answered some objections which had been made to "Civilian Defense being administered by the Armed Forces". There was obvious apprehension that professional ranks would be depleted even more than in World War II if there was no civilian check.

It was explained that the committee which he represented had no executive function and no authority save to make studies, report to, and advise with Secretary Forrestal on all matters relating to Civilian Defense. He further stated that Mr. Hopley's Board, acting directly under the President of the United States, was the only present authority for allocation of all personnel (professional or otherwise) and materials.

Colonel Beers then called attention again to the "Bull Report" which he stated had been concurred in by all defense agencies. ("A Study of Civil Defense"). He felt that this pamphlet should be carefully studied and local organizations set up according to its advice.

Later Mr. Hopley's organization (NSRB) will develop the master plan for the whole country and then all local and state plans can be coordinated with it. There is no use in writing Mr. Hopley now because he cannot possibly answer questions without much study, but there should be no delay in the beginning of local planning not only to take care of ourselves but also our neighbors should necessity arise. Do not expect to be able to get Geiger counters and ionization chambers now. Manufacturers are increasing production steadily but output is all allocated at present. Mobile teams will be located strategically to cover the whole country until such time as local units can be organized, trained, and outfitted.

Dr. James B. Mason, Chairman, Professional Standards Board of Veterans Administration, stated that VA hospitals for the most part were located in the peripheral zones of communities and so might escape when other medical facilities were destroyed. This would be of distinct advantage to the communities. He felt that it was probable that in case of war, Veterans' facilities might be turned over to the Armed Forces as needed; no plan had yet been worked out but it was probable that the professional staffs, all Veterans, would be called back into service and assigned to run them under the Defense setup. Practically all Residents had seen one year's active duty and so according to previews of the new Selective Service Law, would not be called until other professional resources had been exhausted. Dr.

Mason offered the fullest cooperation of the VA nationally and locally in Medical Defense planning.

The next panel was "Medical, Health, and Sanitary Problems of the Military Establishment in the Event of National Emergency".

Col. William L. Wilson, M.D., Special Representative of the Surgeon General of the Army, mentioned the confused competition between the various Armed Services which resulted in taking 6.5 doctors per 1,000 soldiers, which was admittedly much too high a number. He called attention to the appointment of the Hawley Committee now at work coordinating all of the Medical Services and eradicating duplication of facilities. He stated the Armed Services on their own had already taken up the matter of medical supplies with the result that 95 per cent of all specifications were identical for all services.

He passed around a mimeographed circular which was "Restricted" and cannot be quoted, showing the very serious deficiencies in professional personnel which exist at the present time.

He spoke of recent revisions in MR1-9 (Physical Standards for Mobilization) which will make many more men acceptable and of the plans for more complete utilization of available man power. To illustrate, he read the mobilization order of the Emperor Haile Salassie of Ethiopia which was in effect:

1. All able-bodied men and boys large enough to carry spears will go immediately to the battle.
2. Each married man will take his wife with him to cook his food and care for him.
3. Each unmarried man will take with him an unattached woman for the same purposes.
4. Any able-bodied man found at home tomorrow morning will be hanged in his doorway.

He called attention to the fact that if U.M.T. became law, these partially trained men would become the backbone of Civilian Defense. They would have undergone intensive indoctrination in any environment which would impress it and make it stick. They would be trained to take care of themselves and others in gas, biologic, and even in atomic warfare.

Rear Admiral Morton D. Willcutts, (M.C.) U.S.N., spoke for the Navy. He confirmed what Colonel Wilson had said and stressed economy in both personnel and supplies. He stated that we were developing a real economic barrier to war which was just beginning to receive recognition:

1. Julius Caesar traveled on foot, was inexpensively equipped, lived on the conquered countries, and took much booty, so the cost of destroying one enemy has been estimated at about 50 cents.
2. Each enemy corpse cost Napoleon about $800.00.
3. In the Civil War it was $2,000.00.
4. World War I, $22,000.
5. World War II, $200,000.
6. World War III—estimated—$2,600,000.

In the atomic type of war, there will be little or no acceptable booty and counter destruction will be heavy, so when the total bill is estimated ahead of time, it should be pretty obvious that even the victor is likely to bankrupt.

The only other thing worth recording was the fact that the Navy also is dangerously short of doctors. The exact figures were not given as for the Army, but it was demonstrated by graphs and percentages to be, if anything, somewhat worse off than the Army. This probably accounts for the fact that the Navy is issuing no more orders of separation to their V-12's.

In both the Army and Navy discussion, the status of both Reserve and A.U.S. medical officers was taken up as a means of making up, temporarily at least, the crippling deficiencies in medical ranks. It was stated that the Solicitor General had given an opinion that due to some technicality (which I did not understand) in the method of releasing men from the service, they could only be called up for brief training periods, not for extended active duty or overseas service save as volunteers unless the Congress amended the law or a state of emergency was declared.

Major General Malcolm C. Grow, the Air Surgeon, did not appear but sent his Executive Assistant. His report contained little of interest (since they had no separate Medical Corps) save that it was obvious that they felt that their problems were so different from the other services that a separate establishment was a necessity. It was also obvious that they were making a big fight for it before the Congress in the face of all of the efforts of Secretary Forrestal and his Hawley Committee to effect a consolidation for reasons of efficiency and economy.

Dr. John B. Alsever, Consultant on Professional Standards, Hospital Division, U.S.P.H.S.:—About the only new thing that he added to what had already been said was to call attention to the role of the National Institute of Health, the Epidemiological Section and the Field Services in "Biological" warfare. He was "shushed" and went into no further detail. This really must be a hot subject. The role of the U.S.P.H.S. in a state of emergency is too obvious to record here.

Col. Richard H. Eanes, M.C., Office of Selective Service Records, a Virginian from Richmond:—He reviewed the medical work of Induction Boards, admitting many mistakes during the early years and much improvement later. Mention has already been made of changes in MR1-9 for better utilization of available man power. Colonel Eanes thought that the new law, not yet before a committee, would turn down a much smaller percentage but would present the tremendous problem of finding places where sub-standards personnel may be best utilized. Colonel Eanes had an advance copy of the new law. It was drawn up under two separate "Titles", the first for Selective Service until such time as U.M.T. went into effect, and the second for U.M.T. itself. This was done so that if the fight of the schools, colleges, and churches against U.M.T. became too hot politically, the whole bill need not be killed.

Some of the provisions of the bill were discussed:

1. All men between 19 and 26 who had not already served.

2. *All doctors up to 45* who had not served one year.

3. Nurses and dentists were also to be drafted but age restrictions were not given.

4. The induction would be decentralized as before.

5. Doctors would be asked to serve on these Boards *without compensation* as before.

The Secretary (Dr. Meiling) read a letter to the Council from the Canadian Medical Society which stated that they had already set up an active Medical Defense Plan and suggested that when our own plans were developed, representatives of the two countries collaborate for the common good.

This concluded the open sessions since the delegates were not invited to the executive session of the Council, the decisions of which would be communicated through the *Journal.*

Since there was some time remaining before lunch, the floor was thrown open to delegates so that questions might be asked in an effort to crystallize the information presented into some form of report which might be helpful to the State organizations in laying preliminary plans while awaiting advisories from Mr. Hopley's Board, and the following appear to me to be the most important.

1. The situation with Russia is so tense and inflammable, the necessity for us to maintain "face" if we are to maintain leadership for our ideology so obvious, the persistence with which Russia piles aggravation on insult in their incessant efforts to dislodge us from Western Europe and the Near East, all portends a future which though still unpredictable is ominous to say the least.

2. Though the question as to whether Russia possessed atomic weapons was asked on several occasions, the answer was always to this effect: The basic scientific knowledge is now in the possession of all nuclear physicists; Russia has all the materials necessary and in abundance; in addition to whatever "know-how" she may have developed on her own, she is known to have collected valuable information through her Intelligence Service both in Canada and in this country. Under these circumstances, it would be idiotic for us to drift along in a fool's paradise for the two or three years of grace given us by our "prophets", especially if we take into account the two tremendous handicaps which amount almost to an open invitation to an aggressor to attack:

a. Our traditional attitude to war which demands that we *receive* the first blow as at Pearl Harbor. The rigid avoidance of the aggressor role.

b. The economic topography of our country with its congested industrial areas upon which the outcome of any war would depend, and our long coast line and easily accessible harbors, each with its rail network and its metropolitan area. This setup is ideal for atomic attack as compared with the widely dispersed industrial plant of Russia beyond the Urals.

c. Special comment was made on the ease with which ordinary tramp steamers, even of American registry, might be loaded, with atomic bombs beneath the cargo, and tied up in one of our harbors to explode. If timing was good, this might occur in many of our harbors at the same time.

3. The fact that the aggressor always has the initiative and may attack where he pleases, means that defense must be nationwide, integrated, and coordinated to reduce to a minimum the impact of that first "punch".

4. The "Study of Civilian Defense", February, 1948, should be obtained immediately (Dr. Sargent will send one to each delegate but others should be obtained from the Printing Office for the use of each appointee to this work) and studied carefully.

5. Organizations should be developed as advised in the "Study" with whatever local modifications may be necessary.

6. Preliminary work such as inventories of trained personnel and supplies, materials, and resources should be begun. Where obvious deficiencies exist, efforts should be made to overcome them (such as training nurses aides in large numbers to help compensate for the shortage of registered nurses; development with or without the help of the Red Cross of donor groups or even blood banks).

7. Urge upon local authorities (Governors, Mayors, County Supervisors) the absolute necessity for professional advisement in all planning for disaster and professional direction of all professional projects in such planning. The trend of the times is for the aggressive layman to attempt to take upon himself the direction of the affairs of the more philosophical professional (medical) man. We might survive this unrealistic approach in peace time, but never in time of disaster and war.

8. Specialized instruction will be afforded on a regional basis, but like specialized equipment (Geiger counters and ionization chambers) will have to await the organization and functioning of Mr. Hopley's committee. Don't write about these now.

9. It goes without saying that overall medical planning should coordinate the efforts of all professional, semi-professional, volunteer, and allied activities, just as the master plan should include medical advisement and direction.

10. The Council should be kept informed of progress in planning and will act as a clearing house for ideas and means of accomplishment.

Respectfully submitted,

JOHN P. WILLIAMS, M.D.,
Chairman, Committee on National Emergency Medical Service.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director.*

Work With the Press

A number of papers throughout the State have replied to the letter concerning press features which it is hoped can be provided this year. Thus far, only one editor has indicated that he will not be able to use materials furnished by this office.

Of the favorable replies, editors are split evenly in their choice of columns—"Test Your Medical IQ", "Health Talks" and "It's Your Health". Several have expressed an interest in more than one of these features.

As a reminder, a second letter has been sent to those papers which have not yet answered the original communication. In addition, all members of the District Council have been furnished a list of the papers in their respective Congressional Districts, to facilitate their efforts in contacting editors regarding this program. This was mailed so that it should reach these doctors at approximately the same time the second letter was received by the local editors.

It is hoped that members of the District Council, and other interested doctors, will get in touch with newspaper officials in their particular areas, indicating their interest in these materials and also expressing appreciation to those editors who have already agreed to publish them.

These columns on health and medical care will be made available as soon as a sufficient number of papers express a willingness to make use of them.

Radio Programs

The following is a list of the 12 stations which have been written regarding the Medical Society's proposed radio program this year:

WPIK, Alexandria, Hugh Holder, Program Director
WOPI-FM, Bristol, W. A. Wilson, President and General Manager
WCHV, Charlottesville, Randolph Bean, Manager
WBTM, Danville, Milton N. Adams, Program Director
WFVA, Fredericksburg, Walter F. Harris, Jr., Manager
WSVA, Harrisonburg, Dick Johnson, Program Director
WLVA, Lynchburg, Philip P. Allen, Manager
WMVA, Martinsville, John W. Schultz, General Manager
WTAR, Norfolk, George L. Brantley, Public Service Director
WDBJ, Roanoke, Paul Reynolds, Program Director
WRNL, Richmond, Richard Velz, Program Director
WINC, Winchester, J. C. Morgan, Production Manager

Three of these stations — WOPI-FM, WCHV and WFVA—have informed this office that they will gladly cooperate in presenting a program of health and medical care information as a public service.

Present plans call for use of the "Tell Me Doctor" series, which the 12 stations ran successfully for a three-month period last year. These recordings are three minutes in length and thus fit well into a five-minute program, which it is hoped could be aired five times weekly. In cases where a station prefers one 15-minute program, several of these short transcriptions might be arranged with intervals of music or other desirable features.

This year it is hoped that the State-wide program can be presented on a six-month basis.

District Conferences

Members of the District Council for the Ninth Congressional District met on April 22 at the Hotel Lincoln, Marion, from 3:00 to 8:00 p.m.

The program included the following speakers:

Leonard O. Key, Executive Director of Surgical Care, Inc., of Roanoke, "Voluntary Prepayment Medical Care and Hospitalization Plans in Virginia".

Dr. John T. T. Hundley, member of the District Council for the Lynchburg Academy of Medicine, Sixth Congressional District, "A Reference to the Need of Medical Public Relations".

Henry S. Johnson, "Our Suggested Program of Public Relations and Some Suggestions for Members of the Council, District Council and Local Medical Societies, as well as Our Office of Public Relations, in Implementing This Program".

Lieutenant Governor L. Preston Collins, dinner guest speaker, delivered what was referred to as an exceptionally splendid address.

Among those attending were Dr. W. R. Whitman, Councilor for the Sixth Congressional District; Dr. George Kegley, Bland County, Dr. T. C. Sutherland, Buchanan County, Dr. James P. Williams, Dickenson-Buchanan Medical Society, Dr. D. D. Vance, Southwestern Virginia Medical Society, Dr. Mary Johnston, Tazewell County, and Dr. Frank Handy, Wise County, all members of the District Council in the Ninth District; Dr. N. C. Ewing, President of the Lee County Medical Society, and Dr. C. H. Henderson, President of the Wise County Society; Dr. Joshua P. Sutherland, Harman, and Dr. George E. Godman, Chilhowie.

Dr. James P. King, Councilor for the Ninth District, presided over the meeting and Dr. Avery B. Graybeal was in charge of local arrangements.

Dr. Joseph R. Blalock, President of the Smyth County Society and a member of the District Council, extended a cordial welcome and indicated some of the fine work being done by that Society.

Robert L. Anderson, publisher of the *Smyth County News,* was also a guest and made some interesting observations.

A similar meeting for members of the District Council in the Eighth Congressional District was held at the Princess Anne Hotel, Fredericksburg, on Wednesday, May 5.

Speakers were:

R. B. Almack, Director of the Division of Hospital Survey and Construction, State Department of Health, "The Hospital Construction Program in Virginia".

William Shands Meacham, "The Virginia Council on Health and Medical Care", of which he is Director.

M. Haskins Coleman, Jr., Executive Director of Virginia Hospital Service, "Voluntary Prepayment Medical Care and Hospitalization Plans in Virginia".

Henry S. Johnson, "Our Suggested Program of Public Relations and Some Suggestions for Members of the Council, District Council and Local Medical Societies, as well as Our Office of Public Relations, in Implementing This Program".

The dinner guest speaker was Dr. M. Pierce Rucker, President-Elect of the Medical Society of Virginia.

The following members of the District Council were present:

Dr. Frank D. Daniel, Albemarle County; Dr. T. B. McCord, Fairfax County; Dr. W. S. Selden, Fluvanna County; Dr. M. D. Foster, Greene County; Dr. W. O. Bailey, Loudoun County; Dr. E. B. Pendleton, Louisa County; Dr. A. E. Powell, Madison County; Dr. H. C. McCoy, Orange County; Dr. Charles B. Martin, Prince William County. Others at the meeting included Dr. J. L. Stringfellow, President of the Culpeper Medical Society; Dr. T. B. Payne, President of the Fredericksburg Society; and Dr. Ayer C. Whitley, Palmyra.

Presiding was the Councilor for the Eighth District, Dr. Vincent W. Archer, while arrangements in Fredericksburg were handled by Dr. C. A. Nunnally, member of the District Council from King George County.

In addition to the discussions indicated above, considerable time was devoted at both meetings to consideration of suggested specific activities of a public relations nature for the local societies and for members of the District Council.

Samples of the Kit of Materials were also displayed at Marion and Fredericksburg.

Three other meetings of this nature are scheduled during the month of May.

BOOK ANNOUNCEMENTS

You and Your Doctor. A Frank Discussion of Group Medical Practice and Other Modern Trends in American Medicine. By BENJAMIN F. MILLER, M.D., Clinical Professor of Medicine, George Washington Medical School; Research Associate in Medicine, National Research Council; etc. Whittlesey House, McGraw-Hill Book Company, Incorporated. New York. 1948. x-183 pages. Cloth. Price $2.75.

The Battle of the Conscience. A Psychiatric Study of the Inner Working of the Conscience. By EDMUND BERGLER, M.D. Washington Institute of Medicine, Washington, D. C. 1948. x-296 pages. Cloth. Price $3.75.

Psychiatry for the Pediatrician. By HALE F. SHIRLEY, M.D., Associate Professor of Pediatrics and Psychiatry, Executive Director of the Child Psychiatry Unit, Stanford University School of Medicine. New York, The Commonwealth Fund. 1948. xii-442 pages. Cloth. Price $4.50.

History of the Medical Society of the County of Westchester. 1797-1947. A compilation from the available minutes of the Society and various contemporary sources during the years for which the minutes were lost. Published by the Medical Society of the County of Westchester. 1947. xv-193 pages.

Neuroanatomy. By FRED A. METTLER, A.M., M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Second Edition. St. Louis. The C. V. Mosby Company. 1948. 536 pages. With 357 illustrations, including 33 in color. Price $10.00.

Synopsis of Pediatrics. By JOHN ZAHORSKY, A.B., M.D., F.A.C.P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; etc. Assisted by T. S. ZAHORSKY, B.S., M.D., Senior Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Fifth Edition. St. Louis. The C. V. Mosby Company. 1948. 449 pages. With 158 text illustrations and 9 color plates. Price $5.50.

Successful Marriage. An Authoritative Guide to Problems Related to Marriage from the Beginning of Sexual Attraction to Matrimony and The Successful Rearing of a Family. Edited by Morris Fishbein, M.D., Editor, Journal of the American Medical Association and Hygeia. And Ernest W. Burgess, Ph.D., Professor and Chairman, Department of Sociology, University of Chicago. 1947. Doubleday and Company, Inc., Garden City, N. Y. xxi-547 pages.

EDITORIAL

The Fifty Year Club

A NUMBER of State Societies are honoring those of their members who have practiced medicine for fifty years. Indiana State Society gave to each member of the half a century class a handsome gold pin. In 1947 the Medical Society of the State of New York bestowed upon each member who had practiced medicine for fifty or more years a certificate signed by the President of the Society and the Secretary. In addition, the Society issued a handsome album with a brief biographical sketch of each doctor. Whenever it was possible, a portrait taken when the doctor began the practice of medicine was published along with the present day likeness. It is striking how in this "Then and Now" group the practice of medicine had improved the looks of the doctor. The whole group of 432 men and women (for there are nine women) make a remarkably fine appearance. We are reminded of Robert Louis Stevenson's famous lines, "There are men and classes of men that stand above the common herd, the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization."

This year in Mobile the Medical Association of the State of Alabama inaugurated their Fifty Year Club with 132 members. Physicians who graduated fifty or more years ago were asked to sign the "Fifty Year Club" register when enrolling at the registration desk. Their names were printed in the program and, on the morning of the second day of the Annual Session, recognition of the "Golden Anniversary in the Practice of Medicine" of these men was made and certificates were awarded to those who were present. We asked Dr. Douglas L. Cannon, the Secretary-Treasurer of the Association what had been the reaction to such a club and he stated that it had all been favorable. A bystander remarked that probably there were some who should be members of the club but who would not admit their ages. Be that as it may, the president stated when he awarded the certificates that several were present who had not been to a meeting of the Association in years.

National Emergency Medical Service

THE report of Dr. Williams, our delegate to the Council of National Emergency Medical Service (page 306 of this issue), makes disheartening reading. Nevertheless all should read it carefully. The experts tell us that we have only about two or three years to prepare for civilian defense in Atomic Warfare. They speak of incomprehensible forces. For instance, they say that an explosion of one bomb releases more energy than one thousand tons of radium. The demonstrations at Nagasaki and Hiroshima showed what the local effect is. They are still studying the remote effects. Radioactive particles can be carried by dust hundreds of miles. When this dust settles it contaminates the soil and water with minimal amounts of radioactive material. This in turn can be concentrated by as much as a million times by plant life. For instance, some of the vessels at Bikini seemed to get more radioactive with time, which was thought to be due to algae growing on their bottoms. The worst were towed out to sea and sunk.

However, there are some bright spots. The Medical School at Nagasaki was twenty-five hundred yards from the center of the explosion. The walls remained

standing. Inside the building six hundred to eight hundred corpses were found lying about the rooms and corridors a month or six weeks afterwards. It is thought that many of these persons could have been saved had there been an organization that could have brought help from the outside. In the Manhattan Project there were about two hundred thousand persons, and many more thousands worked on the South Pacific Tests and not a single person was injured. From these tests and the study of the Japanese devastated areas, plans for civilian relief are being evolved. In case a city is A-bombed, help must come from the outside. Thoroughly trained "monitor" crews armed with Geiger counters and ionization chambers survey the area and say when the relief crews can enter. The workers as an added precaution carry "dosimeters". The treatment of the radio injured is blood transfusion. The blood will be supplied in tank cars. Thus many in a devastated city can be saved.

Another bright spot is that it costs money to kill with modern weapons. The Civilian Relief may sound terribly expensive, but that is small change to the cost of killing. Rear Admiral Willcutts' figures on the cost of killing an enemy are illuminating. While it cost Julius Caesar only about fifty cents to kill one enemy, each enemy corpse cost Napoleon about eight hundred dollars. In the Civil War the cost rose to two thousand dollars. In World War I it was twenty-two thousand dollars and in World War II it was two hundred thousand dollars. He estimates that in World War III the cost will be two million six hundred thousand dollars. No nation can afford to kill many of us at such a price.

The Virginia Environment

SOME months ago, when we were discussing various factors that entered into the National Health Problem, we had occasion to discuss the Virginia climate. Its freedom from extremes and its variability make it both healthful and pleasant. In some years we have a taste of winter sports, but for the most part outdoor work and such sports as golf can be engaged in throughout the winter season. Tornadoes that cause the loss of life and property to the South, to the West and to the North of us, are unknown in Virginia.

Recently we acquired an old book and an observation therein tempts us to discuss the Virginia environment more fully. The author, Robert Couper, was an impecunious Scot who held the office of tutor in a Virginia family. At the outbreak of the American Revolution, he returned to Scotland and studied medicine at the University of Glasgow. In 1799 he published anonymously "Speculations on the Mode and Appearances of Impregnation in the Human Female; with an Examination of the Present Theories of Generation". The book has no value medically except perhaps as an example of how far wrong one can go when one depends upon theorizing. However, it contains one passage that is of interest to Virginians. In discoursing upon the effect of heredity and climate, he says "the sturdy and generous Briton, notwithstanding the shortness of the period, and the uninterrupted intercourse (with the old country) is traced with uncertainty in the vain, effeminate and cruel Virginian". Evidently Couper did not like Virginia, but he certainly was complimentary of the potency of the Virginia environment. To change a Briton in the course of a generation or so, so that a Scot could scarcely recognize him is a real triumph.

The significance of the adjectives that Couper used is merely that he did not like Virginia and Virginians. These same "vain, effeminate and cruel" Virginians were so imbued with "life, liberty and the pursuit of happiness" that one wrote the Virginia

Bill of Rights and another the Declaration of Independence. Another "vain, effeminate and cruel" Virginian lead the armies of the Colonies in their successful Revolution, and thousands of Virginians fought under this great leader. Had Couper seen them at Valley Forge, we doubt if he would have called them "vain, effeminate and cruel". An hundred years previously the same type of Virginians under the leadership of Bacon almost succeeded in throwing off the yoke of despotism. So potent was the name Virginia, that in 1622 a group who called themselves Virginians and who were on their way to Virginia, drew up the celebrated Mayflower Compact.

Thus we see that the love of liberty was the outstanding characteristic of the Virginian. If Mason and Jefferson were the pens of the Revolution and Washington the sword, Patrick Henry was the tongue. Henry struck a responsive cord when he exclaimed in a proscribed meeting of the House of Burgesses "give me liberty or give me death". Life without liberty was not worth living, and in Virginia they lived with gusto. In Williamsburg there is the site of the first theater in America. The planters of Eastern Virginia needed little excuse to come to Williamsburg for horse racing and balls, and lacking an excuse to go to the Capitol, they danced and fox hunted at home. Then too the average planter had a well selected library. Truly along with the love of liberty went the pursuit of happiness. Early the Virginian learned the fine art of gentle living.

What are some of the factors that brought about this transformation? In the first place he had precious little liberty until he crossed the ocean. He was therefore in a position to appreciate it. The first settlers at Jamestown practiced communism and very nearly starved to death. When they were given ownership of land, things went better. Soon they had the feeling of importance that the ownership of land brings. Next they were frontiersmen and that gave them self reliance. But they were not ordinary frontiersmen, they were deep water frontiersmen. The rivers and tidewater creeks enabled the average planter to have his own wharf where schooners could bring furniture, dress goods, books and news from England and return with a cargo of lumber or tobacco. It was only when the search for new land carried the Virginian beyond the tidewater that his communication with the mother country became difficult. Fourthly, there were no great cities. The Virginian is essentially rural. He has always had plenty of elbowroom and has lived close to nature. Hunting and fishing have always been popular pastimes, and have been in reach of all classes.

To summarize, in the very beginning the Virginian knew the value of liberty because he had very little of it before he came to Virginia. Soon he learned to love the soil, especially the soil of Virginia. The frontier taught him self reliance, but he never got out of touch with civilization. His neighbors were close enough, but not too close, for him to love them, and his climate accentuated the joy of living. No wonder then, the Virginian loves his God and has a very real sense of the dignity of man. Communications with him have always been comparatively easy—first water transportation, then rail, and more recently good roads and air travel. The Virginian has always been able to go places but, the more he traveled, the greater his love for his State. He may have seen higher mountains in one place, clearer streams in another, bigger trees in another, greener grass in another, more game or better fishing elsewhere and better oysters perhaps, but no other place had just the right proportion of the good things and none had better living. (None had a Smithfield or Orange County ham.) The frontier has disappeared, but we have in its place an historic heritage. The other factors remain. We pray that the Virginian may continue in his gentle ways, his respect for his fellow man and his love of God.

SOCIETIES

The Accomack Medical Society

Met in Onancock on May 6th with the President, Dr. Rooker J. White, presiding. Dr. John W. Robertson read papers on Avocation and Vocation, following which he exhibited roentgenograms showing familiar and rare conditions. Mrs. J. L. DeCormis, president of the Woman's Auxiliary to the Medical Society of Virginia, was a guest and presented a project sponsored by the Northampton-Accomack Auxiliary in memory of the late Mrs. Grace Wilkins Holland which is to be a tumor or cancer-detection clinic on the Eastern Shore. Delegate and alternate to the State meeting were elected.

The following are the 1948 officers: President, Dr. Henrik Shelley, Chincoteague; vice-president, Dr. John W. Robertson, Onancock; and secretary-treasurer, Dr. James Corbin Doughty, Onancock (re-elected)

Arlington County Medical Society.

At the meeting of this Society held on April 15th at the Washington Golf and Country Club, the guest was Dr. Emil Novak, professor of gynecology at the Johns Hopkins Medical School. The subject of his lecture was "The Use and Abuse of the Endocrines in Gynecology" and this was followed by an interesting discussion. There was a large attendance with members of the surrounding county medical societies and Washington as guests. Following the lecture, a buffet supper was served.

Dr. W. P. Hammer and Dr. Leo Solet, both of Arlington, are president and secretary, respectively.

Lynchburg Academy of Medicine.

Dr. H. L. Riley, Jr., President, presided at the May 10th meeting of the Academy, with Dr. John T. T. Hundley in his accustomed place as secretary. Dr. W. A. Browne, Director of Communicable Disease Control of the State Department of Health, was the guest speaker and had as his subject "The Salmonella Infections and Diagnosis by means of the H. & O Reactions".

Richmond Academy of Medicine.

Dr. H. Hudnall Ware has been named president of the Academy, succeeding Dr. E. T. Gatewood, resigned.

Rockingham County Medical Society.

Officers of the Rockingham County Society for 1948 are Dr. B. S. Yancey, president, and Dr. Hollen G. Helbert, secretary. Both are of Harrisonburg.

The Southwestern Virginia Medical Society

Held its semi-annual meeting at Hotel General Shelby, Bristol, on May the 6th, Dr. D. D. Vance of that city, president, presiding. There was an attendance of 85 at the afternoon session and 126 members and guests at the night session. Papers were presented at the first session by Dr. Norman G. Patterson, Bristol, on "Time Saving Minor Surgical Procedures", and by Dr. Edwin J. Palmer, Roanoke, on "Notes on the Private Practice of Psychiatry". Following these, there was a business session, at which several new members were received and delegates named to the State Society meeting to be held in Richmond. At this time, also, the President appointed Dr. J. C. Motley, of Abingdon, chairman, and Drs. R. H. Grubbs, Christiansburg and A. P. Jones, Roanoke, on the Cancer Control Committee. He stated that he will appoint a committee from each county on Public Relations.

Preceding the banquet which was given through the courtesy of The S. E. Massengill Company of Bristol, Virginia-Tennessee, there was a tour of the Company's plant, which was very interesting and informative. Guest speakers at the night session were Dr. Frank Johns, Richmond, who spoke on "Cancer of the Colon", and Dr. Charles M. Caravati, also of Richmond, whose subject was "Jaundice". The next meeting of the Society will be in October at Pulaski, with headquarters at the Maple Shade Inn.

ANDREW F. GIESEN, M.D.,
Secretary.

Warwick County Medical Society.

At the meeting of this Society on May the 11th, Mr. Haskins Coleman, of Richmond, gave a discussion on Blue Cross and Blue Shield. Dr. William A. Mitchell and Dr. George S. Grier, III, both of Newport News, are president and secretary, respectively, of this Society.

Virginia Peninsula Academy of Medicine.

Dr. Robert G. Douglas, Associate Professor of Obstetrics of Cornell University School of Medi-

cine, spoke before the Academy on April 19th, his subject being "The Management of Prolonged Labor". There was an attendance of eighty, including the following special guests: Drs. C. J. Andrews, Brock Jones, John R. Kight, Richard B. Nicholls, Millard Savage, of Norfolk; H. Hudnall Ware, Henry Spalding, Edwin Rucker, Eric Schelin, of Richmond; James M. Habel, Jr., Suffolk; John Payne, Sunbury, N. C.

At the May 17th meeting, Dr. Maurice C. Pincoffs, Professor of Medicine, University of Maryland, was the guest of the Academy and the Kecoughtan Veterans Administration. The Society had dinner at the Kecoughtan Hospital after which Dr. Pincoffs conducted the Academy's annual clinicopathological conference. Two cases from the files of the Veterans Hospital were analyzed. In the absence of the President, Dr. Paul Hogg, and the Vice-President, Dr. Eldred S. Jones, the meeting was presided over by Dr. Chester D. Bradley, Secretary-Treasurer.

New officers elected at this meeting for the next year were: President, Dr. George G. Hankins, Newport News; vice-president, Dr. Emmanuel Greenspon, Newport News; secretary-treasurer, Dr. William A. Read, Newport News. The Academy adjourned till next September.

NEWS

Registration by Virginia Doctors.

At the recent meeting of the General Assembly, a bill introduced by Senators Caudill, Hagood and Kendig was passed, providing for annual registration for renewal of license to practice any branch of the Healing Art in Virginia. This was approved by the House of Delegates at the meeting of the Medical Society of Virginia last fall.

In brief, this statute states that the Secretary of the State Board of Medical Examiners shall send a registration card to each practitioner of the Healing Art in Virginia. This practitioner shall fill it out and return it to the Secretary not later than June 30, of each year, with a fee of one dollar. The Secretary shall then mail him a renewal certificate. All State Board licenses to practice the Healing Art in Virginia expire on June 30, and are not valid unless renewed by registration. On or before September 1 of each year, the Secretary shall publish a list of licensed practitioners.

Inasmuch as the American Medical Association Directory has not been issued for six years and the new one will not be out until January, 1949, some difficulty is anticipated in securing the names and present addresses; it is suggested that any physician who has changed his address recently notify the Secretary of the State Board of Medical Examiners, 306 Medical Arts Building, Roanoke, Va.

It will be of interest to know that the following states now have annual registration: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Indiana, Iowa, Kansas, Louisiana, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, New York, North Dakota, Oklahoma, Oregon, Pennsylvania, South Dakota, Texas, Utah, Washington, Wisconsin and Wyoming.

Large Attendance Expected at June Session of A. M. A.

A possible total registration of 30,000 persons at the annual American Medical Association convention to be held in Chicago, June 21-25, is anticipated by Thomas R. Gardiner, business manager of the Association. More than 6,000 hotel rooms will be required to handle the out-of-town physicians expected to attend the session. These doctors, plus the large number living in the Chicago area, are expected to bring the total number of medical men registering at the session to 12,000. Wives, guests, exhibitors and others will probably bring the complete total of persons attending to about 30,000.

At the last Chicago annual session of the Association, held in 1944, the total registration of physicians reached 7,284. The Atlantic City centennial celebration of the American Medical Association last year brought a total of 15,667 physicians.

Technical exhibits, which present the latest in modern medical and surgical supplies, will occupy at least 50,000 square feet of space on Navy pier. At the Atlantic City centennial session last year,

such exhibits occupied a total net area of 45,500 square feet.

Conference of County Society Medical Officers.

On Sunday, June 20, there will be a conference of County Medical Society Officers in the Red Lacquer Room of the Palmer House in Chicago. Although the program which is to be from 10:00 a.m. to 4:00 p.m. has been prepared especially for officers of the county societies, any member of the A. M. A. is welcome, and it is felt that any doctor interested in county society work would feel well repaid for attendance upon this meeting.

Golf Tournament.

The American Medical Golfing Association will hold its 32nd Tournament on Monday, June 21. The famous beautiful and sporty Olympia Fields has been reserved for the medical golfers' tournament. Dinner will be held in Olympia Fields C.C. Clubhouse, after which prizes will be awarded.

All male Fellows of the American Medical Association are cordially invited to become Fellows of the American Medical Golfing Association; write Secretary Bill Burns, 2020 Olds Tower, Lansing 8, Michigan, for application blank and details. Participants in the tournament are required to present their home club handicap, signed by the Club Secretary—or to accept a handicap set by the AMGA Handicap Committee. No handicap over 30 is allowed.

Canadian Rocky Vacation.

The Oklahoma State Medical Association announces through Dick Graham, Executive Secretary, that they will sponsor for the 3rd time a Post-Convention Tour in conjunction with the A. M. A. Convention which is to be held this year at Chicago, June 19 to 25. They wish to extend a special invitation to the physicians and wives of this state to join them on their trip to the Canadian Rockies.

This 13 Day Tour is all-expense and starts from Chicago on Friday, June 25 at the close of the A. M. A. Convention. The party will visit Jasper National Park, Columbia Icefield, Lake Louise, Banff, as well as spending one day at the Calgary Stampede before returning to Chicago on July 7. The trip includes the choice of menu, finest of hotels with deluxe pullman accommodations as well as complete sightseeing program. All transfers and baggage handling are also included. The tour will be under the personal direction of Mr. Harry E. Kornbaum who has conducted the two previous Oklahoma Medical Association Tours, last year to Quebec and the previous year to San Francisco and the Pacific Northwest.

This tour will be by special train and limited to 130 reservations. Pullman accommodations will be assigned in order of reservations received. For those who are interested, write direct to Mr. Dick Graham, Executive Secretary, Oklahoma City, Oklahoma. A complete day by day itinerary with prices will be forwarded.

Have You Made Your Reservation?

In the April *Monthly* was given a list of Richmond hotels with rates. Those who expect to attend the Richmond meeting of the Medical Society of Virginia are urged to make room reservations promptly. Officers and delegates are requested to be on hand for Sunday evening as, to expedite the business sessions, it has been decided to have the Council meeting on Sunday afternoon and the first meeting of the House of Delegate at 8.00 p.m. that day.

Scientific exhibits are to be a prominent feature of the meeting. Those wishing space for an exhibit may write Dr. Vincent W. Archer, chairman, University Hospital, Charlottesville. As room is limited, requests should be made promptly.

Dates for the scientific sessions are October 18, 19 and 20. Let's make this one of the best meetings in the history of the Society!

Are You Reading the Advertisements In Your Journal?

The advertising pages of the *Monthly* carry much material which should be of great interest to doctors. Are you reading these pages each month to see what products they are publicizing and using the coupons accompanying some of the advertisements? These products have the approval of the Council on Pharmacy and Chemistry of the A. M. A., so should be acceptable to our readers.

This is *your* journal and these people help to make the publication of the *Monthly* possible by the support they give it. Won't you do your part?

Married.

Dr. William Harrison Higgins, Jr., and Miss Emily Armistead Peyton, both of Richmond, May 29.

Dr. and Mrs. S. E. Massey,

After spending the winter in Florida and Arizona, will be in Wytheville, Va., and Bluefield, W. Va., for the summer months.

Dr. Howard Cain,

Class of '30, Medical College of Virginia, who practiced at Wakefield until last December, received an appointment on the staff of the Hurst-Snyder Hospital at Hazard, Kentucky, and entered upon his duties there, effective May 1.

Dr. P. R. Bryan,

For the past two years at the C. & O. Hospital, Clifton Forge, has located in Lynchburg where he is associated with Drs. Barksdale, Pugh and Haynesworth in the practice of general surgery, with offices in Allied Arts Building.

World Medical Association.

The Council of the World Medical Association, representing twelve different countries, held a four-day meeting in New York, beginning April 26. The Council, which consists of fourteen members, ten of whom are elective, is the governing body of the Association, which was organized in Paris in September 1947. One important matter to come before the Council was the election of a permanent secretary and Dr. Louis H. Bauer of Hempstead, N. Y., a member of the Board of Trustees of the A. M. A. was elected to the office of secretary-general. An elaborate program of entertainment was planned in both New York and Chicago for the foreign delegation.

A Post-Graduate Course in Boston.

A post-graduate course in the Modern Treatment of Fractures and Other Traumatic Conditions will be held at the Massachusetts General Hospital, Boston, September 20th to 29th, under the auspices of the Harvard Medical School. This course is covered by the G. I. Bill of Rights, and is very comprehensive. Further information may be obtained from Assistant Dean, Courses for Graduates, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts.

Dr. Peter A. Wallenborn,

Class of '44, University of Virginia, was recently released from Service in the Army, and has located at Concord Depot, where he is associated with Dr. R. H. Cross.

On State Board of Medical Examiners.

Governor Tuck has appointed Dr. W. J. Hagood of Clover as a member of the State Board of Medical Examiners form the 5th Congressional District, to fill the unexpired term of Dr. Beverley F. Eckles of Galax, resigned. Dr. Hagood graduated from the University of Virginia in 1943 and served in the Army Medical Corps, spending nearly three years in France and Germany. He is a nephew of Dr. J. D. Hagood, with whom he is associated in practice at Clover.

Dr. E. C. L. Miller,

For a number of years Directing Librarian at the Medical College of Virginia, recently retired, is now enjoying a visit to Hawaii and, while away will visit many points of interest in the Western States. He is taking the trip by plane.

Alumni Dinner.

University of Pennsylvania Medical Alumni will hold a dinner at the Convention of the American Medical Association in Chicago, Wednesday, June 23, at the Lake Shore Club, 850 Lake Shore Drive. On arrival in Chicago, alumni should contact Miss Frances R. Houston, Executive Secretary of the Medical Alumni Society, at the University of Pennsylvania registration booth.

Dr. Walter Reed Again Honored.

The demonstration by Walter Reed of the mosquito transmission of yellow fever was commemorated at the Fourth International Congresses on Tropical Medicine and Malaria held in Washington, D. C., May 10-18. A special meeting was held for this commemoration at which was present James L. Hanberry one of the survivors of the actual experiments conducted by Dr. Reed.

Also a bust of Dr. Reed was unveiled in the Hall of Fame at New York University on May 20th.

Special Lecture at Roanoke VA Hospital.

Dr. Edward Weiss, Professor of Clinical Medicine, Temple University School of Medicine, Philadelphia, co-author of the well-known text books on

psychosomatic medicine and emotional problems, will lecture at this Hospital on Friday, June 18. He will speak on "The Psychosomatic Concept in Medical Practice", and an invitation is extended for those interested to attend.

History of the State Department of Health.

Acting upon a resolution adopted by the last General Assembly, Governor Tuck has appointed a five-man commission to work on the preparation of a history of the State Department of Health. The personnel of this group is Mr. L. C. Bird, sponsor of the resolution; Dr. L. J. Roper, State Health Commissioner; Dr. Wyndham B. Blanton of Richmond; Dr. J. B. Fisher of Midlothian; and Dr. William N. Hodgkin, dentist of Warrenton. It is felt that the work of the State Health Department would make one of the most interesting chapters in the history of Virginia and the Commission is to look into the possibilities of preparing a history of the Department through 1930 and a report is to be made from the group on December 1, 1949.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, has just completed its twenty-first annual Spring Graduate Course, with a total registration of 250 physicians, representing every State in the Union, Canada, Mexico and other foreign countries. The next Course will be held April 4-9, 1949.

News, State Department of Health.

Dr. Mason C. Romaine, Director of the Division of Cancer Control of the State Department of Health, announces that tumor tissue specimens from medically indigent patients suspected of having cancer will be examined free of charge upon request if sent to one of the following pathological laboratories:

Department of Pathology, Medical College of Virginia Hospital, Richmond

Department of Pathology, University of Virginia Hospital, Charlottesville

Dr. Regena Beck, Stuart Circle Hospital, Richmond

Dr. M. B. Beecroft, Buxton Hospital, Newport News

Dr. M. L. Dreyfuss, Chesapeake & Ohio Hospital, Clifton Forge

Dr. J. D. Kernolde, Alexandria Hospital, Alexandria

Dr. T. J. Moran, Memorial Hospital, Danville

Dr. L. J. Motyca, Norfolk General Hospital, Norfolk

Dr. J. H. Scherer, 820 W. Franklin Street, Richmond 20

Dr. A. F. Strauss, De Paul Hospital, Norfolk

Containers may be obtained from the Division of Cancer Control of the State Department of Health.

Dr. Walter R. Johnson,

Health Officer of the Alleghany-Botetourt Health District, resigned that position effective April 17 to become Health Officer of Henrico County.

Dr. Lewis Ellsworth Jarrett

Announces the opening of offices in the Marion Drug Company Building, Marion, for general medical practice.

The Virginia Society of Ophthalmology and Otolaryngology

Met in Winchester on May the 8th, under the presidency of Dr. Fred E. Hamlin of Roanoke. The guest speakers were Dr. Frank Walsh of Baltimore and Dr. Stewart Nash of Rochester, N. Y.

New officers elected for the ensuring year are: President, Dr. W. W. Gill, Richmond; president-elect, Dr. Francis H. McGovern, Danville; and secretary-treasurer, Dr. Peter Pastore, Richmond.

Pan American Association of Ophthalmology.

Dr. Conrad Berens of New York was elected president of the Pan American Association of Ophthalmology at the Third Pan American Congress of Ophthalmology held in Havana, Cuba, January 4—10. It was decided to hold the next Congress in Mexico City in 1952.

The Congress adopted "statutes and bylaws", establishing the Pan American Association of Ophthalmology as a continuing organization with the objectives of fostering the progress of ophthalmology, establishing contacts among ophthalmologists of the Western Hemisphere and promoting measures to conserve eyesight and prevent blindness among the peoples of the hemisphere.

Attend Travel Club Meeting.

Dr. H. Hudnall Ware, Richmond, president, and Dr. Waverly R. Payne, Newport News, recently attended the annual Travel Club meeting in Chicago

of the Southern Interurban Obstetrical and Gynecological Society. They were accompanied by Dr. W. D. Suggs and Dr. W. C. Winn, Richmond, as guests. While there, they visited clinics at the Passavant, Wesley Memorial, Presbyterian, and University of Illinois Research Hospitals.

General Practice Residencies.

Rear Admiral Clifford A. Swanson, MC, USN, Surgeon General and Chief of the Bureau of Medicine and Surgery, announces that a new residency in General Practice will be inaugurated in Naval Hospitals on July 1, 1948. The Professional Division of the Bureau of Medicine and Surgery has developed a residency in that phase of medicine which is required to augment the several medical specialties recognized by the American Specialty Boards in order to supplement the residency training program, now operative, which is designed toward specialization. The program, as planned, will cover a period of three years. During each year of this residency Medical Officers will receive six months of training in General Medicine and related specialties, and six months in General Surgery and related specialties. Instruction will be provided by the staffs of the hospitals and outstanding civilian visiting staffs. With the introduction of this type of training Navy Medicine has recognized the great need of the General Practitioner in the field of medicine.

Physicians On Social Hygiene Committee.

Dr. T. W. Murrell has been named chairman of the Richmond Social Hygiene Committee. Other doctors on the committee are Drs. Wyndham B. Blanton, Raymond Kimbrough, and L. J. Roper. The committee is cooperating in a nation-wide campaign to educate people on current methods of controlling venereal diseases.

Association of American Physicians.

At the annual meeting of this Association, held in Atlantic City in May, Dr. Francis G. Blake, New Haven, Connecticut, was named president, succeeding Dr. A. H. Gordon of Montreal, Canada. Other officers elected are: vice-president, Dr. A. R. Dochez, New York; treasurer, Dr. Walter Bauer, Boston; recorder, Dr. Cecil J. Watson, Minneapolis; secretary, Dr. Henry M. Thomas, Jr., Baltimore; and councilor, Dr. Robert F. Loeb, New York.

The American Congress of Physical Medicine

Will hold its twenty-sixth annual scientific and clinical session Sept. 7, 8, 9, 10 and 11 inclusive, at the Hotel Statler, Washington, D. C. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held Sept. 7, 8, 9 and 10. These courses will be offered in two groups. One set of ten lectures will be based primarily on physics and physiology and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapists. The physical therapists must be registered with the American Registry of Physical Therapy Technicians. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

For Sale:

1 S.W. Diathermy #550 and attachments (Liebel-Flarsheim) in excellent condition;

1 S.W. Diathermy #500 and attachments (Liebel-Flarsheim) good condition;

1 Electro-surgical portable Bovie unit;

1 G.E. Model C, Quartz Lamp.

This equipment may be seen at the home of the late Dr. J. E. Knight at Warrenton, Va. (*Adv.*)

Wanted.

Laboratory Technician for 45 bed Virginia Hospital. Full Maintenance. Salary open. Write "Technician", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

For Sale.

Physician's Roller-Top Desk and Chair (American Case and Register Company). Excellent condition. Phone Richmond 5-4553 or write "Desk", care the Monthly. (*Adv.*)

Pathologist

Of long experience, certified in clinical pathology by the American Board of Pathology, available as director of hospital laboratories in North Carolina or Virginia. Address "Clinical Pathologist", care the Monthly, 1200 East Clay Street, Richmond 19. (*Adv.*)

OBITUARIES

Dr. Marshall Peterson Gordon,

Widely known urologist of Richmond, died May 10th, following a heart attack. He was forty-three years of age and received his medical degree from the University of Virginia in 1927. Dr. Gordon had practiced in Richmond since 1932 and was assistant urologist at the Medical College of Virginia and urologist for the hospital division of the College. During World War II, he served with the United States Navy in the South Pacific and was discharged with the rank of commander. Dr. Gordon was a member of several state and national urological societies and had been a member of the Medical Society of Virginia for fifteen years. His wife and two children survive him.

Dr. Silas Terry Yeatts.

Floyd, died of uremia and hypertensive heart disease on April 27th, at the age of 61, having been in poor health for several years. He received his medical training at Lincoln Memorial in Tennessee. After practicing a few years in Tennessee and Kentucky, he returned to his native State in 1922. Dr. Yeatts was president of the Floyd County Medical Society, a member of Floyd Town Council, on the County Board of Health, and a Mason. During his active years, he had been a member of the Medical Society of Virginia, Southwestern Virginia Medical Society and the Roanoke Academy of Medicine. He is survived by his wife, one daughter, and four sons.

Dr. George Tully Vaughan,

Honorary member of the Medical Society of Virginia, died in Washington, D. C., on April 26th. He was born in Nelson County, Virginia, in 1859, and received his medical degree from the University of Virginia in 1879. Dr. Vaughan was formerly chief surgeon of the Georgetown University Hospital. He had been a member of the Medical Society of Virginia for sixty-six years and was made an Honorary Member in 1905.

Dr. Philip Edward Rossiter,

Avon, New York, died April 30th, at the age of seventy-one. He graduated from the Long Island College of Medicine, Brooklyn, in 1902. Dr. Rossiter had been a member of the Medical Society of Virginia since 1930, having joined when he was located at Lee Hall, Virginia, with the James River Fleet. His wife and a son survive him.

Dr. Cornelius James Seay,

Scarsdale, New York, died April 24th. He was born at Fork Union, Virginia, in 1873 and graduated from the former University College of Medicine, Richmond, in 1898. Dr. Seay had been a member of the Medical Society of Virginia for forty-nine years. His wife and a daughter survive him.

Resolution on Dr. Miles.

The Danville-Pittsylvania Academy of Medicine wishes to express its sincere sorrow in the untimely death of Dr. Perry Watson Miles, of Danville, on February 21, 1948.

Dr. Miles' death is an irreparable loss to his family, his medical colleagues and his many patients and friends in the community of Danville. His devotion to the welfare of children as shown by his many years of service on the Danville School Board and his active interest in promoting recreational facilities in the City, in addition to his large pediatric practice, has won the admiration and esteem of his fellow practitioners.

CLAYTON BRANTLY, *Secretary-Treasurer,*
Danville-Pittsylvania Academy of Medicine.

Memorial—Dr. Harvie DeJarnette Coghill.

Harvie DeJarnette Coghill, son of Phillip Hawes and Annie Gayle Coghill, was born December 12, 1884 in Caroline County, Virginia. In his early youth he attended the public schools in the neighborhood where his family resided and later enrolled in the Massey Business College of Richmond. After completing the course in that school he took a position with a business firm in this city. He quickly became so efficient that he received one promotion after another, becoming secretary and office manager of the firm, and finally being taken into partnership by his employer.

The success which Harvie Coghill achieved in the business world did not satisfy his ambition. He was eager for a college education and a broader cultural life. He was an omnivorous reader, choosing always the old classics and the best books of modern literature. Thus early in life he developed to the fullest the varied talents with which he had been endowed.

After several years in the workaday world he resigned from the lucrative position he held, sold his interest in the business and entered Richmond College. While a student there he became a member of the staff of "The Messenger", a magazine published by the students, and developed quite a talent for short story writing. After completing his course at the University of Richmond he attended William and Mary College and later Harvard

University, in both of which he majored in psychology and social science. As a trained psychologist he became the first "approved mental examiner" (other than a medical doctor) in the State of Virginia, and was employed as such by the State Department of Public Welfare, then known as the State Board of Charities and Corrections. Upon the outbreak of World War I he received a commission as First Lieutenant in the Army and was assigned to the medical staff of his unit. Soon after his discharge from the Army Mr. Coghill was appointed Chief Probation Officer of the Juvenile and Domestic Relations Court of Norfolk. While holding this office he was married to Miss Mary Brightwell of West Virginia. Two daughters were born of this marriage, Phyllis Ann, now Mrs. Leroy Edward Brown, III, and Mary Lou, now Mrs. Robert Taylor Poland.

Because of his intense interest in the field of psychology and psychiatry, Mr. Coghill decided to enter the Medical College of Virginia, where he continued his education until he won the degree of M.D. While a student in the Medical College he became also an instructor in that institution and worked part time for the Virginia State Penitentiary. In 1927 Dr. Coghill was awarded a $3,000 fellowship by the National Committee of Mental Hygiene and for a year studied child psychiatry in Boston, Cleveland and New York. In 1928 Dr. Coghill became the Director and Psychiatrist of the Children's Memorial Clinic (now the Memorial Guidance Clinic) of Richmond, and to this he devoted his time and talents for the remaining twenty years of his life. Under Dr. Coghill's skilled, able and successful leadership the Clinic grew, expanded and developed the value and effectiveness of its service to the Juvenile Court, to the schools and the welfare agencies, both public and private, of the City of Richmond; and to children from every walk of life. Recently at the request of the Richmond Community Chest Dr. Coghill has directed plans for the establishment of an adult division of the Clinic, ministering to the mental health of adult persons suffering from nervous and mental disorders.

Dr. Coghill loved life in all its aspects. He loved people and they loved him so it was inevitable that he should have a host of friends and admirers.

Words cannot adequately portray the splendid service that Dr. Coghill has rendered to his youthful patients and their parents. He was patient and kind, tactful, wise and understanding in his approach to the problems of childhood. He gave without stint of himself, his strength and his medical skill in ministering to the needs of every child who came to him. His achievements in his chosen field of child psychology and psychiatry are well known.

The recognition accorded him as one of the outstanding psychiatrists of the State and the nation is attested by his membership and active participation in the Richmond Academy of Medicine, the Virginia Medical Society, the American Medical Association, the American Psychiatric Society and the American Orthopsychiatric Association. Recently he has served as co-ordinator of the International Congress of Mental Hygiene and helped to prepare for the approaching conference to be held next summer in London.

Dr. Coghill was an educator as well as a physician. As long as his health permitted he served as a teacher at the Medical College of Virginia and at the Richmond School of Social Work. He was always active in broadenening the public's knowledge of the mental health aspects of his work and in training young men and women who attended his classes or who were assigned to the Clinic for their field work. With the undergraduate students he was always sympathetic and patient and commanded their respect and affection.

About sixteen years ago Dr. Coghill suffered a severe attack of arthritis which left him crippled physically but in no way dimmed his brilliant mind. Like the great soul that he was he courageously overcame the handicap of this malady and continued to minister with tenderness and understanding to the needs of troubled people who came to him for help.

Following a recent illness Dr. Coghill passed away on February 6, 1948.

NOW, THEREFORE, in recognition and appreciation of the twenty years of able, unselfish and devoted service of Dr. Harvie DeJarnette Coghill as the Psychiatrist and Director of the Memorial Guidance Clinic and its predecessor, the Children's Memorial Clinic,

BE IT RESOLVED by the Board of Directors of the Memorial Guidance Clinic that in the death of Dr. Coghill the Clinic and the City of Richmond have sustained an irreparable loss; that we extend to his bereaved family our deepest sympathy. The example of his remarkable life will long live in the memory of those who knew him and will serve as an inspiration to the generation of young men and young women who follow in the trail that he has blazed.

BE IT FURTHER RESOLVED that a copy of these resolutions be sent to Dr. Coghill's family, that a copy be published in the VIRGINIA MEDICAL MONTHLY and a copy spread on the minutes of this Clinic.

NATALIE BLANTON
JULIA H. SACKETT
BLISS WILLIAMS STREET
H. W. DECKER
JAMES HOGE RICKS

PROTEINS...

Pre- and Post-operative

"Surgical patients in many instances tend to come to operations in a depleted state. There are many reasons for this: chronic gastro-intestinal disease . . . long-standing infectious processes . . . or loss of blood. The preparation of the patient for surgery includes nutritional preparedness. In the first instance, this means a good supply of *proteins* and carbohydrates.

"The operation itself and the reaction of the body to it in the immediate convalescent period are likely to increase breakdown of body protein. There seems little doubt that the recent stress upon maintenance and supplementation of dietary protein has had a beneficial effect upon the period of convalescence and the incidence of complications."*

SWIFT'S STRAINED MEATS

Palatable protein supplementation for patients on soft, smooth diets

When surgery or disease creates a problem in protein supplementation, many physicians now use Swift's Strained Meats. These all-meat products provide an abundant and palatable source of complete, high-quality proteins, B vitamins and minerals. Originally developed for infant feeding, the meats are strained fine—may easily be used in tube-feeding or for oral feeding in soft diets. Swift's Strained Meats are convenient to use—ready to heat and serve. Six kinds provide variety and tempting flavors that help combat anorexia: beef, lamb, pork, veal, liver and heart. 3½ ounces per tin.

*"*The Importance of Protein Foods in Health and Disease*"—new, physicians' handbook on protein-feeding. Prepared by a physician, in conjunction with the Nutrition Division of Swift & Company, this booklet will be sent you free on request. Simply fill out the coupon.*

Also Swift's Diced Meats—for high-protein diets requiring foods in a form less fine than strained, these tender, juicy pieces of meat are highly desirable.

Swift & Company
Dept. SMB
Chicago 9, Illinois
Please send me my free copy of "The Importance of Protein Foods in Health and Disease."

Doctor.....

Address.....

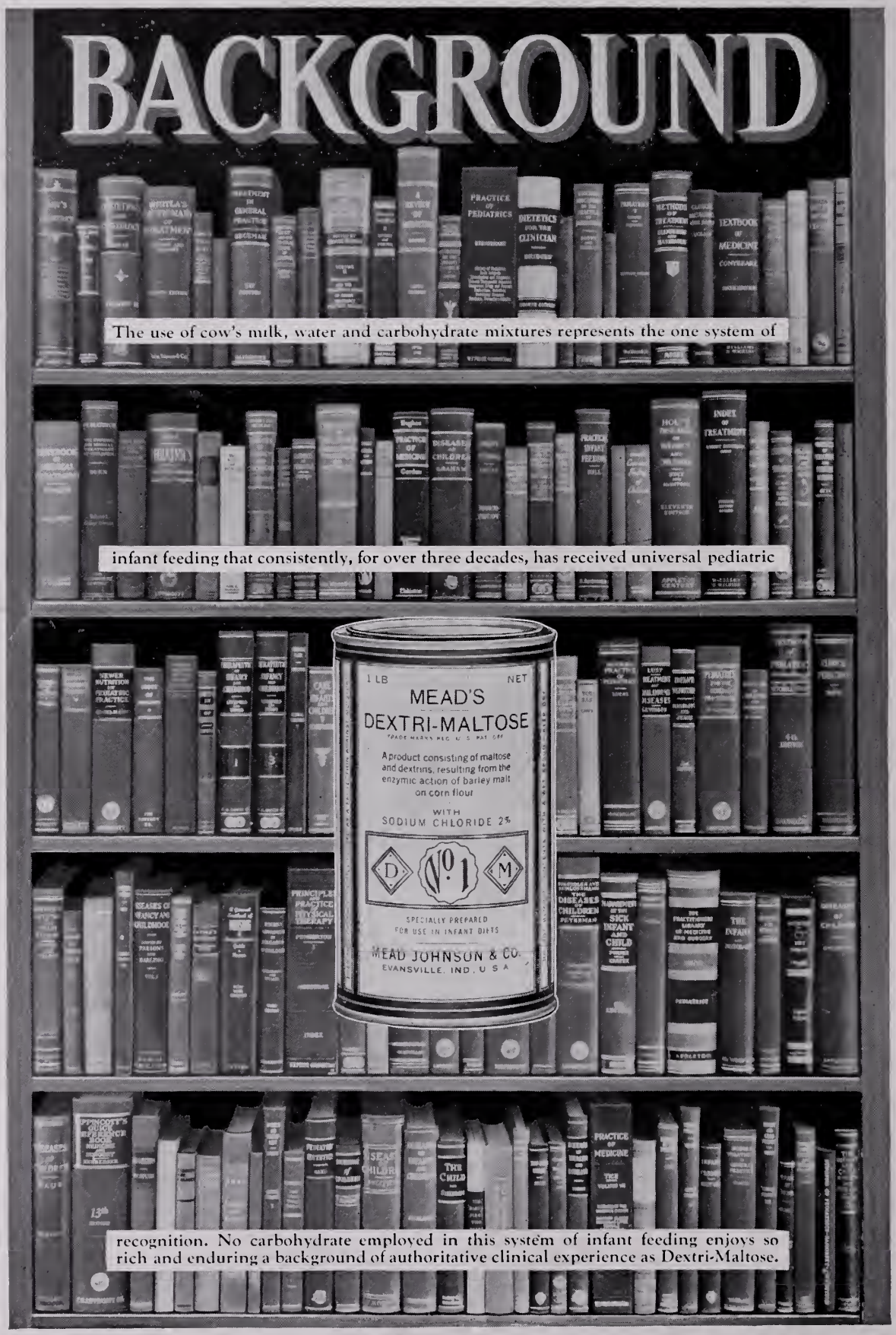
City.....*State*.....

SWIFT QUALITY FOODS

All nutritional statements made in this advertisement are accepted by the American Medical Association's Council on Foods and Nutrition.

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

SWIFT & COMPANY • CHICAGO 9, ILLINOIS


BACKGROUND
The use of cow's milk, water and carbohydrate mixtures represents the one system of
infant feeding that consistently, for over three decades, has received universal pediatric
1 LB
NET
MEAD'S
DEXTRI-MALTOSE
A product consisting of maltose and dextrins, resulting from the enzymic action of barley malt on corn flour
WITH
SODIUM CHLORIDE 2%
D
No. 1
M
SPECIALLY PREPARED
FOR USE IN INFANT DIETS
MEAD JOHNSON & CO.
EVANSVILLE, IND. U.S.A.
recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

THE N.Y. ACADEMY OF MEDICINE
JUL -6 1948
LIBRARY

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Pregnancy and Diabetes. William R. Jordan, M.D, Richmond, Va. ---------- 325

Medical Practice on the Virginia Peninsula Sixty Years Ago. Chester D. Bradley, M.D., and Miriam D. Bradley, R.N., B.S., Newport News, Va. ---------- 328

Rheumatic Disease in Southwestern Virginia. R. Earle Glendy, M.D., Roanoke, Va. ---------- 334

Ocular Emergencies. William P. McGuire, M.D., Winchester, Va. ---------- 338

The False Positive Serologic Test. J. W. Love, M.D., Alexandria, Va. ---------- 341

The History—An Important Factor in Diagnosis of Coronary Thrombosis. E. L. Copley, M.D., Richmond, Va. 346

Primary Spontaneous Pneumothorax. Alfred L. Kruger, M.D., Norfolk, Va. ---------- 351

Penicillin in Cardiovascular Syphilis. Reno R. Porter, M.D., 357

Co-existence of Organic and Psychosomatic Disease—Case Report. Elizabeth M. Cover, M.D., Luray, Va. ------ 359

Country Doctor, 1947. N. H. Wooding, M.D., Halifax, Va. 361

Foreign Body—Open Safety Pin—In Esophagus of Infant—Report of Unusual Case. Porter P. Vinson, M.D., Richmond, Va. ---------- 363

Continued on page 6.

Medical Society of Virginia
Annual Meeting
Richmond, October 18-20, 1948

July, 1948

Reliance

Advertisement

From where I sit
by Joe Marsh

How to Live Longer

Someone asked Pappy Miller last week how he stayed so spry at ninety. Pappy told him:

"Well, sir—when I work, I work hard. When I set, I set loose. When I think, I go to sleep."

According to Doctor Hollister, that formula isn't far amiss. "Hard work," he says, "never wore out anyone before his time, providing he knew how and when to relax."

Hollister himself works overtime, with his daytime patients at the office, and his evening calls. And when he gets home he takes it easy with a mellow glass of beer and chats with the missus until it's time to go to bed.

From where I sit, relaxing is certainly a fine art—especially in these tense, fast-moving times. And there's nothing just quite like a temperate glass of beer—enjoyed with pleasant company—to restore that easy frame of mind that one really needs after a hard day's work.

Joe Marsh

Copyright, 1948, United States Brewers Foundation

Dairy Foods
SHOULD BE
Daily Foods

A delightful way to get the daily quota of nourishing dairy foods is Sealtest Ice Cream. In addition to Vitamin A and calcium, it is rich in other minerals, vitamins and protein, and contains 10 important Amino Acids.

Southern Dairies

Sealtest
ICE CREAM
THE MEASURE OF QUALITY

TUNE IN: The Sealtest Village Store, starring JACK CARSON with Eve Arden, Thursday Evenings, NBC

MEAT

And the Dietary of Pregnancy and Lactation

According to a study published in the recent past[1] it has been shown that nitrogen balance is suddenly reversed from positive to negative shortly before term. This negative balance is further intensified by substantial losses of nitrogen during parturition and the postpartum period. Lactation imposes still another burden on nitrogen metabolism.

This study again emphasizes the need for a diet rich in biologically complete protein during the latter half of pregnancy. In this manner, the physiologic loss of nitrogen at term can be compensated, avoiding negative nitrogen balance. A high protein diet has the further advantage of producing a more copious milk supply.

In another recent publication,[2] the prevention of the toxemias of pregnancy by dietary means was stressed. Foremost among the measures recommended was a diet rich in high quality protein to assure nitrogen balance.

Meat is an outstanding source of protein in the dietary of pregnancy and lactation for these four reasons: (1) It is notably rich in protein, from 17 to 20 per cent of its uncooked, and from 25 to 30 per cent of its cooked weight; (2) The protein of meat, regardless of cut or kind, is biologically complete; (3) The appetite appeal of meat is high, and (4) All meat is of excellent digestibility—from 96 to 98 per cent.

[1] Stuart, H.C.: Effects of Protein Deficiency on the Pregnant Woman and Fetus and on the Infant and Child, New England J. Med. 236:507 (Apr. 3) 1947.

[2] Zeigler, R.F., Jr.: Pre-eclamptic Toxemia of Pregnancy. North Carolina M. J. 8:655 (Oct.) 1947.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute

Main Office, Chicago... Members Throughout the United States

Virginia Medical Monthly

Vol. 75, No. 7
WHOLE No. 1153

RICHMOND, VA., JULY, 1948

$2.00 A YEAR
25 CENTS A COPY

PREGNANCY AND DIABETES*

WILLIAM R. JORDAN, M.D.,
Richmond, Virginia.

The prolongation of life in the young female diabetic since the discovery of insulin has changed the problem of pregnancy in diabetics from a relatively minor one to one which is today fairly prevalent, which justifies more intensive study of this combination. White[1] estimated that there were over 100,000 prospective diabetic mothers living in the United States as long ago as 1935, and undoubtedly this figure is larger today, as evidenced by an increasing number of articles[2] reporting statistics in moderate groups of such cases rather than isolated cases, as was formerly true.

There are two aspects of the problem of pregnancy in diabetes. One concerns the mother and the other the infant. There is general agreement as to the care with respect to the mother's welfare but the cause and treatment for the high fetal mortality in the pregnant diabetic is not generally understood. White[4] feels that an imbalance of the pregnancy hormones leads to the high fetal mortality and that correction of such imbalance can be brought about by specific treatment. This paper will deal first with our observations concerning the mother, and then, in more detail, the controversial subject of the hormonal studies with respect to their value from the standpoint of prognosis of fetal survival and their effectiveness in correction of the high fetal mortality rate.

In the past seven years we have seen 33 pregnancies with diabetes in private practice and an additional case of renal glycosuria similarly studied, which we are including in this report. From the study of this group we have learned a few things.

The first is that the diabetic who is treated reasonably well is not sterile, which is quite contrary to the experience of the students of diabetes many years ago.

The next thing of real significance is that the diabetic mother can go through pregnancy with very little hazard to her life, no mother having died in any instance in this series. However, she requires close supervision at frequent intervals and at times urgently needs vigorous treatment to prevent death. There is no rule as to the effect of pregnancy on the diabetes, but in our experience diabetes has tended to become more severe, especially in the last third of pregnancy, as compared to the pre-gestation period. After delivery the diabetes returns to its original degree of severity.

The third thing of significance is that about the seventh month there is in some patients a marked tendency to acidosis which progresses rapidly, even with control of the sugar which ordinarily would prevent any acidosis. This has seemed more likely when salt has been omitted from the diet because of toxemia of pregnancy.

The fourth outstanding feature is that the renal threshhold for sugar may drop to a subnormal level and at times to a very low level, even to below 90 mg. of blood sugar; so that sugar is found in the urine with normal blood sugars. This entails the employment of blood sugar determinations at fairly frequent intervals and prevents our using the simple test for urine sugar as a guide to treatment.

There are other features, such as toxemia of pregnancy, which impress one, but they lie primarily in the obstetrical field and will not be discussed here.

The fifth thing, and the one which most needs to be corrected, is the fetal mortality rate. The gross fetal and neo-natal mortality in this entire series was 39%. Eliminating the cases with dead babies at the time of the first visit, we find a net mortality rate of 30%. This will be discussed separately in the section of the paper on the hormone studies. Unfortunately, the sub-divisions make

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

such small groups that the results are of doubtful importance for statistical purposes unless studied in conjunction with other small series.

The investigations of the Smiths[3] have led to an interesting study of pregnant diabetics by Dr. Priscilla White[4], of the Joslin clinic, who studied the blood chorionic gonadotropin and the urinary pregnandiol in pregnant diabetics. In 1946 she reported a total series of 271 pregnancies studied in the above manner with a gross mortality of 16.6%. As judged by the hormone studies, 23% of the pregnant diabetics have normal hormonal balance. Of the other 77%, who were abnormal, she left untreated a control group of 19% of the entire series. The remaining 58% who had hormonal imbalance were given corrective treatment. The fetal mortality rate in the abnormal uncorrected group was 48%; in the abnormal corrected group 12%, and in the normal group 3%. Over half the fetal mortality of the entire series was supplied by the 19% of abnormal uncorrected cases.

In our studies† we began using rats which were then available, but with the advance of the recent war, rats became unavailable and we had to experiment with rabbits. We then found rabbits advantageous because serum, rather than a blood extract, was suitable. Of more importance was the fact that the results of tests could be obtained within 48 hours instead of one week, as was true with rats. Beginning at six months of pregnancy, we take blood every two weeks for the determination of gonadotropin and receive the reports in two days. During the last six weeks of pregnancy tests are made each week. As long as the gonadotropin level remains normal, no treatment is given. If the level rises abnormally, 25 mg. of stilbestrol is given three times daily by mouth with 5 mg. of progesterone intramuscularly twice daily. Unless there is a drop to a normal level by the time of the next test, the dosage is increased to 100 mg. of diethyl stilbestrol and 15 mg. of progesterone daily. If this proves ineffective, the stilbestrol is then given in 10 mg. doses intramuscularly 4 or 5 times daily. Rarely, even more is used. The husband is taught how to give the injections in the buttocks.

The results in this series show that 8 patients had no test of the blood gonadotropin, and the mortality rate was 33 per cent. Thirteen more had normal blood levels with a mortality of 15 per cent. Seven cases had elevated blood hormone which decreased to a normal level with treatment, and all these babies lived, a mortality rate of zero. There were five cases with abnormally high gonadotropin levels which either were untreated or not adequately lowered by treatment. All these resulted in stillborns or neo-natal deaths. When one examines the results closely, one finds that not only is each group too small to be of great importance but that there are a few cases that are equivocal. One such was Case No. 1139 who had had a stillborn prior to our seeing her. She was an ideal patient and followed instructions carefully. The gonadotropin was elevated at the time of the first test and it required large doses of the hormones to reduce it to normal. The dosage was reduced then in view of the normal blood level and pain at the site of injections. The hormone then rose and was reduced to normal only the day before fetal movement stopped. This patient was treated and the hormone levels were twice restored to normal. She could be put in the group of abnormal hormones corrected by treatment, which would alter the figures considerably. However, 6 of the 12 tests showed a high level of gonadotropin and the drop to normal was so close to fetal death that she was classified as an abnormal uncorrected case.

One patient, Case No. 1594, was sent to us as a pregnant diabetic. We found, however, that she simply had renal glycosuria of several years duration. However, at her first visit to the office, since she was far along in pregnancy, we examined the blood for gonadotropin before the diagnosis of renal glycosuria was made. In view of the statistics given by Miller *et al*[2d], we felt that it was only fair to the patient to attempt to correct the hormone elevation which we found. This was done successfully and the baby survived.

When one studies the literature, he is certain to find statistics that cause confusion. Even White has amazing figures. In 1935 she[1] reported a fetal mortality rate of 15% in 66 pregnancies ending at term under the personal care of the Joslin group. This was before her use of the stilbestrol and progesterone treatment. Now, in spite of her highly successful use of the hormone in controlling her cases, she[4] reports a gross mortality rate of 16.6%

†The gonadotropin determinations on rats were run by Dr. Rolland Main at the Medical College of Virginia, and those on rabbits by the "Physicians' Service Laboratories".

in 1946. The latter series is so much larger and the former so at variance with most other reports that I am inclined to accept the present one as significant, although Mengert and Laughlin[2c] and Hurwitz and Irving[2b] reported mortality rates of 18% and 12% without the use of hormone therapy. As Eastman[2a] has stated, we must be cautious in interpreting results which are influenced so markedly by statistical errors. No other reports of statistical significance have been published on this phase of pregnancy in the diabetic, although Palmer and Barnes are using the treatment without testing the patients, and Bowen[5] reported one case with tests and treatment.

The extensive work of the Smiths[3], which has culminated in their advice to use diethyl stilbestrol from the 16th week of pregnancy to prevent accidents in late pregnancy, is supportive of the conclusions of White[4]. Our experience is such as to persuade us that there is merit in the method and that one is justified in the assertion that the study should be more extensive and that the hormonal study and treatment in the pregnant diabetic probably is of real help in saving babies.

BIBLIOGRAPHY

1. P. White: Pregnancy Complicating Diabetes. *Surg. Gyn., and Obstet.* **61**:324, 1935.
2. (a) N. J. Eastman: Diabetes Mellitus and Pregnancy. Obstet. and Gyn. Surgery, **1**:3, 1946.
   (b) D. Hurwitz and F. C. Irving: Diabetes and Pregnancy. *Am. J. M. Sc.* **194**:85, 1937.
   (c) W. F. Mengert and K. A. Laughlin: Thirty-Three Pregnancies in Diabetic Women. *Surg., Gyn., and Obstet.* **69**:615, 1939.
   (d) H. C. Miller, D. Hurwitz and K. Kuder: Fetal and Neo-natal Mortalities in Pregnancies Complicated by Diabetes Mellitus. *J.A.M.A.* **124**:271, 1944.
   (e) Lester J. Palmer and Robert H. Barnes: Pregnancy in the Diabetic. *Western J. of Surg., Gyn., and Obstet.* **53**:195, 1945.
   (f) P. White. Pregnancy Complicating Diabetes. *J.A.M.A.* **128**:181, 1945.
3. O. W. Smith, G. Van S. Smith, and D. Hurwitz: *Am. J. Obstet. and Gyn.* **51**:411, 1946.
4. P. White, In Joslin: Treatment of Diabetes Mellitus. pp. 769-784, 8th Ed., Lea & Febiger, Philadelphia, 1946.
5. B. L. Bowen: A Primipara with Diabetes and Mild Toxemia Treated Successfully with Diethyl Stilbestrol. *J.A.M.A.* **126**:98, 1944.

1631 Monument Avenue

DISCUSSION

DR. WAVERLY R. PAYNE, Newport News: Dr. Jordan has ably presented his subject, and his observations are shared by most of us who have had the experience of caring for pregnant diabetic patients. I should like to emphasize several important points from the obstetrician's viewpoint.

(1) The occurrence of this complication averages 1:276.

(2) Early diagnosis is extremely important. Any patient showing sugar in the urine before the end of the seventh month should be thoroughly studied to differentiate between normal lactose, a low renal threshold, and true diabetes.

(3) Every true diabetic should be under the close supervision of a physician competent to cope with any of the complications of that disease.

(4) Pregnancy toxemia is relatively common in diabetics, and, therefore, every precaution should be taken to guard against it.

(5) As Dr. Jordan has pointed out, fetal death in the latter several weeks occurs in at least fifteen per cent. Therefore early delivery should be considered (two weeks).

(6) The method of delivery should depend upon the obstetrical indications.

(7) The anesthetic should be preferably spinal or caudal.

(8) These babies are often large, fat, and weak, and often have hypoglycemia. Therefore glucose (sucrose) should be given immediately after birth.

(9) Close observation should be continued through the postpartum period.

I wish to thank Dr. Jordan for the privilege of discussing this most interesting subject.

MEDICAL PRACTICE ON THE VIRGINIA PENINSULA SIXTY YEARS AGO*

CHESTER D. BRADLEY, M.D.,
and
MIRIAM D. BRADLEY, R.N., B.S.,
Newport News, Virginia.

One evening in October, 1884, five doctors in the little town of Hampton formed the first medical society on the Virginia Peninsula, which they chose to call the Peninsula Medical Society because this name was the "most comprehensive in its meaning." They met in the house of Dr. Jesse H. Peek, which still stands on South King Street complete even to the carriage stepping stone engraved with the doctor's name. The Transactions of the Peninsula Medical Society covering the years 1884 to 1893 have recently come to light in the estate of the late Dr. Harry D. Howe, of Hampton, whose widow presented the volume to the Medical Library of the Dixie Hospital in that town. This record which affords an intimate glimpse into the medical world of the 1880's has led to what we believe is an interesting contribution to Virginia medical history to be mentioned later.

The ten years from 1880 to 1889 were one of the most brilliant and revolutionary epochs in the history of medicine. It was a decade illuminated by a series of dazzling bacteriological discoveries: the plasmodium of malaria, the staphylococcus, streptococcus and meningococcus, the bacilli of tuberculosis, typhoid fever and diphtheria, as well as the colon bacillus. In surgery great advances were made, such as cholecystectomy, gastroenterostomy, Saenger's new cesarean section, spinal anesthesia, and the cystoscope. Dr. John Herbert Claiborne, of Petersburg, well expressed the spirit of the times in his President's address at the 1878 meeting of the Medical Society of Virginia. He said, "The microscope, ophthalmoscope, endoscope, spectroscope, aspirator, electricity, the vivisectionists, and the organic chemists have played sad havoc with the lessons that some of us learned a quarter of a century ago[1]."

But most of these epoch-making developments were confined to the laboratories and the amphitheaters of the world's great teaching centers. It was to be a number of years before their applications could be extended to everyday medical practice. The Transactions of the Peninsula Medical Society reveal that the doctors of the Virginia Peninsula eagerly noted and discussed all these great happenings. They sensed the revolutionary changes eventually to come, but, like their medical brethren elsewhere, they had to go on with medical practice as it was. They may be compared to us of today who stand on the threshold of the atomic age. In the 1880's blistering, cupping, leeching, poulticing and purging were the mainstays of treatment[1]. Highly valued remedies were mercury for syphilis, cod liver oil for tuberculosis, belladonna for whooping cough, condurango for cancer and cold water for fever. A few of the other drugs in use were veratrum viride, arnica, rhubarb, squill and croton oil. Treatment in those days was on the energetic side, as revealed by G. F. Butler's[2] recollections in the *American Journal of Clinical Medicine.* A single case of lobar pneumonia might be treated with quinine for the fever; chloral hydrate, morphine, belladonna, hyoscyamus for the cough; senega, squill and oil of turpentine as expectorants; carbolic acid and creosote as pulmonary antiseptics; poultices and compresses to the chest, and the inevitable calomel to clean out the bowels. Diphtheria was treated by painting or spraying the throat with nitric acid, chromic acid, silver nitrate, carbolic acid, chlorine water or tincture of iron chloride, while brandy was given in large quantities for its "constitutional effects". Such, then, were the modes of treatment prevailing when the Peninsula Medical Society came into being and its Transactions must be read with this understanding in mind at all times. In 1884, diagnosis was largely by the five senses. Probably the only laboratory test done was examination of the urine for albumin and sugar. There were no hospitals on the Virginia Peninsula. Surgery was done in the patient's home on a kitchen table. Trained nurses, there were none, only midwives,

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

handy women and "grannies". Yet Hampton was the medical center of the region and our research indicates that the physicians of the Virginia Peninsula were among the foremost in the State.

George William Semple, of Hampton, led the fight in 1875 for the creation of a state medical examining board. Virginia was badly infested with licensed quacks whose only qualifications were the self-conferred title of doctor and a ten-dollar bill for the license fee. Semple was president of the Medical Society of Virginia in 1882†. He was one of the first physicians in Virginia to support the theory of bacterial infection (1880.) Dr. Henry Mazyck Clarkson[3] was a strong champion of analgesia and anesthesia to relieve the pains of childbirth in an age when these procedures were still being attacked by both physicians and clergymen with medical and religious arguments. He gave chloral hydrate in sufficient doses to cause the patient to sleep between her pains. Clarkson closed his impassioned plea in the *Virginia Medical Monthly,* January, 1886, with these words, "To pity distress is but human; to relieve it is godlike." Jesse Hope Peek had advanced ideas on sanitation and public health, as evidenced by his paper, "The Hygiene of Our Towns" (1887). He was convinced that the many "continuous fevers" afflicting the population were in reality typhoid. Peek's reason told him that the shallow wells which were "simply reservoirs for the surface water" must be swarming with the typhoid bacillus recently discovered in Germany by Eberth. He therefore strove to improve sanitary conditions in Hampton. Peek was also a member of the State Board of Medical Examiners[1]. Dr. James Thacker Boutelle, of Hampton, was a surgeon of ability who trephined at least once for traumatic epilepsy (the patient was a young man from Fox Hill). Boutelle also performed the first recorded cesarean section on the Virginia Peninsula, an achievement which will be mentioned further in the paper. Peek and Boutelle cooperated in the establishment of Dixie Hospital. This, the first civilian hospital on the Virginia Peninsula, was organized by Miss Alice Bacon, a teacher at Hampton Institute, with the cooperation of certain public-spirited citizens of Hampton. The Hampton Training School which was founded in the same year was the second training school for nurses in the State of Virginia[1].

The founding of the Peninsula Medical Society on October 14, 1884, was in keeping with the spirit of that great decade. Although George William Semple had died the previous year, we may safely assume that his influence was still present. The charter members were Jesse H. Peek, James T. Boutelle, Nathaniel Williams, Hugh F. Wallis, and George W. Marmion, all of Hampton. Hampton sixty-three years ago was the only town of size or importance on the Virginia Peninsula. Its neighbor, Newport News, today a bustling shipbuilding and seaport city, was then a sleepy hamlet of about twenty houses. It was early decided to enlarge the society by issuing honorary memberships to all physicians on the Virginia Peninsula, civilian and government both. Dr. Clarkson and Dr. L. L. Williams of the United States Quarantine Station at Old Point Comfort, also Dr. Charles Brewer of the National Soldiers Home Hospital at Kecoughtan, became members of the Peninsula Medical Society. In 1889, the two Hampton dentists, Dr. T. H. Parramore and Dr. F. W. Shield were elected to membership and for a number of months the society met in Dr. Parramore's office. Dr. Joseph Charles from the village of Newport News belonged to the Peninsula Medical Society and the young Joseph Wilton Hope of the village of Poquoson was initiated in 1891. In 1885, two "Doctresses" (women physicians) who had been nominated for membership at a previous meeting "were deemed ineligible . . . . . not having complied with the state laws."

One is gratified to note the excellent qualifications of the medical profession on the Virginia Peninsula sixty odd years ago in a day when medical educational standards were often lax. George William Semple (1810-1883) graduated from the University of Pennsylvania. He published a number of papers on medical and surgical subjects[4]. Jesse H. Peek (1852-1902) graduated from the University of Virginia. Nathaniel Williams (1845-1924) received his M.D. degree from Jefferson Medical School in Philadelphia. James T. Boutelle (1845-1913) graduated from Harvard Medical School and interned at the Massachusetts Gen-

†The first president of the Medical Society of Virginia was James McClurg who was born at Hampton in 1747. After studying medicine in Edinburgh, Paris, and London, he entered practice in Williamsburg where he remained ten years before removing to Richmond. He was elected president of the Medical Society of Virginia in 1820 (Blanton, W. B.: Medicine in Virginia in the Eighteenth Century. Richmond, 1933, Garrett & Massie, Pages 328-334).

eral Hospital. He published a number of papers in the *Boston Medical and Surgical Journal* (now the *New England Journal of Medicine*) and the *Virginia Medical Monthly*[5]. Henry M. Clarkson (1835-1915) took his M.D. degree at the University of Pennsylvania[5]. He published several papers on obstetrical subjects, and after leaving Hampton he edited a short-lived medical journal known as *The Virginia Medical Advance*[1]. Charles Selden (1833-1908) was educated at the University of Virginia. Joseph Charles (1853-1902) was a graduate of the College of Physicians and Surgeons in Baltimore, Maryland[5]. D. H. Worthington was a graduate of Rush Medical College in Chicago[5], while Joseph Wilton Hope (1865-1936), whose father and grandfather before him had been physicians in Hampton, was graduated from the Medical College of Virginia. Several other men besides Boutelle had had internships, which fact made them outstanding in those days. Semple, Peek, Nathaniel Williams, Selden and Hope were Virginians. Clarkson was a South Carolinian; Boutelle was born in Cambridge, Massachusetts, while Worthington was a native of Iowa, and Joseph Charles was a Marylander.

The meetings of the Peninsula Medical Society were held twice a month, usually in the homes of the members. In this relaxed and intimate atmosphere the early part of the evening was given over to a discussion of case histories in which opinions and advice were freely exchanged. Pathological specimens were often exhibited. The second part of the evening was devoted to a paper prepared by one of the members, which was always referred to as the "paper of the evening." After the paper had been read and roundly discussed, the members partook of food, drink and conversation. The diligent secretaries made copious notes of the discussions which filled those evenings of long ago. The impact of the new discoveries on the body of old knowledge was creating uneasiness in the minds of many physicians. This can be seen in the remarks of Jesse H. Peek, in 1889, who deplored "the tendency of the present school of medicine to ignore the old and tried remedies and to experiment with new drugs. The graduates of the present day know more about the use of agaricus and pyrotoxin than how to make a mustard plaster or how to prepare a surface for a blister . . . . . In this hurrying age," said Peek, "we had sometimes rather stop and try to digest what we had already swallowed." Nathaniel Williams was of an opposite mind. At this same meeting some of the members extolled the value of heat as a remedy, which they claimed was not only palliative but in some cases actually curative. They pointed to the vapor bath in acute nephritis where the patient is seated in a chair with a vessel of water at his feet, enveloped in a blanket or sheet while red hot bricks are placed in the water to produce vapor. Williams bluntly told the group that he did not think hot water or heat alone had any curative properties, although it might be a good palliative in convulsions of children. "It is our duty," Nathaniel Williams sternly said, "to seek the causes of disease and not to try to cover up our ignorance of cause and remedy . . . . . by a little hot water here or a hot bag of sand yonder." He called attention to the recent evidence that certain diseases were caused by "bacilli, fungi or bacteria." The future of medicine, Williams thought, lay in finding the appropriate germicides for each disease.

Diphtheria and summer diarrhea were the scourges of infant and child life in the 1880's. Calomel was thought by some doctors to be almost specific for diphtheria. The treatment of summer diarrhea or cholera infantum was most unsatisfactory because its cause was not understood. Stevens' Manual of Practice, edition 1893, listed "hot weather, faulty feeding, dentition and bad hygiene" as predisposing causes[6]. As a final measure in one desperate case of summer diarrhea, Boutelle resorted to the "outdoor treatment" recommended in the medical textbooks of the time. He stopped all medicines and kept the baby under a tree by the water all day, whereupon it improved, which was not surprising since the accepted treatment of summer diarrhea included calomel and other purges. Tetanus of the newborn, which apparently was not uncommon, is referred to in the Transactions as "trismus nascentium" and "nine day fits." In all four cases reported inflammation of the umbilicus had been noted. Chloroform inhalations were recommended to alleviate the spasms and one member thought a grain of calomel on the tongue would save a large number of these cases of "nine day fits." Fevers were a frequent topic of discussion and many were the long arguments over the differential diagnosis of typhoid fever and just plain

"continued fever." On one point, however, was there general agreement, and that was treatment. The members all thought iodine and carbolic acid taken internally gave good results with these fevers regardless of the diagnosis. Among the therapeutic sensations of the 1880's were antipyrin and acetanilid. In an age where it was the tendency to consider fever more or less as a disease in itself these drugs were hailed with enthusiasm because they would reduce fever as well as alleviate pain. It was claimed that antipyrin and acetanilid cured such varied conditions as otitis media, intractable hiccough, delirium tremens, insomnia, typhoid fever, pneumonia and epilepsy. The Peninsula Medical Society went through this wave of enthusiasm like the medical profession elsewhere and each member was asked to write out his experiences with these drugs for discussion.

Eclampsia was treated by sedation. Charles Selden, called to a woman in labor aboard a ship in Hampton Roads who had had thirty-eight convulsions, gave two-thirds grain of morphine after which there was only one more convulsion. Hugh F. Wallis, after treating a case of eclampsia with chloral hydrate, potassium bromide, veratrum viride and bleeding, gave two-thirds grain of morphine, whereupon the convulsions stopped. The Transactions reveal plainly that obstetrics in those days was no field for a doctor with weak nerves or a weak back. High forceps operations, craniotomies, eviscerations, and dismemberment of the fetus were not uncommon. All too often the mother was lost along with the infant. Cesarean section was considered to be even more dangerous than craniotomy and was resorted to only when the birth canal was too narrow to permit the breaking up and removal of the fetus by piecemeal through the vagina. Leishman's Midwifery, edition 1879, gave the maternal mortality for cesarean section as at least eighty-five per cent. This same authority stated " . . . we are driven to this last resource (cesarean section) whenever we recognize the fact that the fetus, however mutilated, cannot be extracted by the pelvic canal"[7].

In the winter of 1879 James T. Boutelle[8], of Hampton, was called to see a young Negro woman who had been in labor several days. The membranes had ruptured early in labor. A midwife was in attendance. Boutelle found the pelvis to be markedly contracted and the mucous membranes of the vagina thickened and criss-crossed by fibrous ridges which were so firm they felt like cartilage. A large vesico-vaginal fistula was present. Five or six years before, this same woman had been delivered by craniotomy after a labor of eight days. The house was small, poorly built, the room very cold with a small open fireplace as the only means of heat. "A number of colored women were present besides the girl's mother and the midwife . . . " Boutelle called in consultation the venerable George William Semple and Jesse H. Peek. In deference to the wishes of the patient and her family it was decided to attempt forceps delivery before resorting to a more desperate procedure. With Peek giving chloroform, Boutelle applied forceps to the fetal head but was unable to pull it down. The three doctors then decided that because craniotomy and dismemberment of the fetus would probably cause fatal injury to the mother, there was no recourse except cesarean section. Boutelle then did a cesarean section, delivering a baby which breathed only a few times despite efforts to resuscitate. The uterus failed to contract and bleeding was profuse. Boutelle put a large piece of ice in the uterus, according to the method of Sir Spencer Wells, and gave a hypodermic injection of fluid extract of ergot. The uterus contracted some but the blood continued to pour forth furiously. Finally Boutelle passed three silk sutures through the edges of the uterine incision firmly closing the wound. He then placed a piece of ice in the vagina and compressed the uterus with his hand whereupon the bleeding ceased. He closed the abdominal incision except for the lower inch and one-half where he brought out the ends of the sutures and inserted a drain. The patient recovered from the anesthetic and the three doctors left the house much encouraged. However, the evening of that same day, the patient began to cough, spit blood, became cold, rolled from side to side and soon died. It was not possible to obtain an autopsy.

The essential point of interest in this account is that Boutelle closed the uterine incision with sutures. Astounding as it seems today, it was not the approved practice in Boutelle's day to suture the uterine wound in cesarean section. The incision was left open as a result of which blood and lochia drained freely into the abdominal cavity. Leishman's Midwifery, edition 1879, stated, "It is quite certain that this (suture of the uterine wound) is not essential to success and it is doubtful . . .

whether or not it is in any way beneficial[7]." Thomas Radford, of Manchester, England, the great champion of cesarean section, declared in 1880, " . . . sutures ought not to be introduced into the uterine walls, and indeed, I think they would prove in general not only useless, but by the uterine tissue yielding they would be injurious[9]." Rodenstein, who sutured the uterus in a cesarean section which he was asked to close, relates that, when his chief returned on the third post-operative day, he indignantly reopened the abdomen and removed the sutures from the woman's uterus. Cesarean section was practiced on living women for over two hundred and fifty years before anyone had the courage to insert sutures in the uterine wound. Lebas of France (1769) was the first; then Barlow of England (1817); Weigel of Germany (1838), and Godfroy of France (1840). After the middle of the last century an occasional courageous operator in this country and Europe would dare to suture the uterine wound despite ridicule and condemnation. In the United States may be cited Polin (1852), Brickell (1867), Townsend (1867), Foster (1870), and Rodenstein (1871). The turning point came only in 1882 when Max Saenger, of the University of Leipzig, Germany, developed and popularized a method of uterine suture which revolutionized the operation of cesarean section, making it a relatively safe procedure[9].

James T. Boutelle of the Virginia Peninsula who sutured the uterine incision on January 20, 1879, was one of the pioneers in the advance of surgery. In his case report in the *Virginia Medical Monthly,* August, 1879, he said, "I used three silk sutures to stop the hemorrhage and the chances of its recurrence would have been less if I had used twice as many." Boutelle also stated, "It was not the severity of the operation (cesarean section) but the lateness of its performance which caused the fatal result. The advocates of the operation claim . . . . that it is not of itself severe enough to justify the mortality which attends it. They insist upon the necessity of operating early. I have no doubt that the mortality would be greatly diminished if this rule could be carried out." Boutelle was a bold, resourceful and skillful surgeon. Boutelle was a daring innovator, for he placed three sutures in the uterine wound and afterward declared he should have placed twice that number. Boutelle was a man of prophetic vision, for he foresaw that if the operation could be done early instead of late and if the uterine wound were closed by sutures, then the deadly cesarean section might become a beneficent and life-saving procedure.

BIBLIOGRAPHY

1. Blanton, W. B.: Medicine in Virginia in the Nineteenth Century. Richmond, 1933, Garrett & Massie.
2. Butler, G. F.: Changes in Therapeutics During the Past Quarter of a Century. *Am. J. Clin. M.* **25**: 16-23, 1918.
3. Clarkson, H. M.: Chloroform and Chloral in Obstetrics. *Va. Med. Mo.* **13**:680-689, 1886.
4. Atkinson, W. B.: Physicians and Surgeons of the United States. Philadelphia, 1878, C. Robson. Pages 467-468.
5. Transactions of the Medical Society of Virginia, 1900.
6. Stevens, A. A.: Manual of the Practice of Medicine. Philadelphia, 1893, W. B. Saunders, Page 56.
7. Leishman, W.: System of Midwifery. Philadelphia, 1879, Henry C. Lea, Pages 528-535.
8. Boutelle, J. T.: A Case of Caesarean Section. *Va. Med. Mo.* **6**:370-374, August, 1879.
9. Young, J. H.: Caesarean Section; the History and Development of the Operation from Earliest Times. London, 1944, H. K. Lewis & Co.

DISCUSSION

DR. M. P. RUCKER, Richmond: The authors have made good use of recently discovered source material and have given us an interesting picture of medicine 60 years ago. It was in a similar society in Boston in 1843 that Oliver Wendell Holmes read his famous essay on the Contagiousness of Puerperal Fever. In Boston they called their group the Society for Medical Improvement, a very good name, for these small societies that meet around in the members' homes are potent factors in the improvement of the practice of medicine. They make for cooperation among the local doctors instead of the usual jealousies. The discussions are usually informal and every one present takes part or asks questions. If the society has good secretaries, as evidently the Peninsula Medical Society did, medical historians will be thankful.

I was especially interested in what the authors have to say about obstetrics, for this is an important period in the history of obstetrics. As Dr. Bradley says, anesthesia was just coming into general use, although it had been more than thirty years since Long had used it in his wife's confinement (1845) and Channing had published his treatise upon etherization in childbirth (1848). Doctors were beginning to study their patients more carefully and were beginning to use instruments in their examinations. At the re-organization meeting of the Medical Society of Virginia in 1870, while the committee was out working on the constitution and by-laws, Dr. Wm. A. Gillespie, of Louisa County, exhibited a modification of his own invention of the duck-bill speculum. Subsequent minutes of the Society offer further evidence that Virginia doctors were obstetrically and gynecologically minded.

Dr. Boutelle's cesarean section is important. W. H. Harris was able to collect some 15 such cases in which sutures were used in the uterus. The first of these and the third in the world's literature was performed in 1828 at Occoquan, Va., by a charlatan whose name is unknown today. It was reported by Dr. Weems, of Fairfax, who witnessed the operation. There is some doubt as to whether it was a true cesarean section, for the patient was somewhat over-due and the "uterine wall" was said to contain calcareous matter. It may well have been a sac of an abdominal pregnancy. On the other hand, no mention is made of any difficulty with the placenta. At any rate, the operator put 3 sutures in what was called the uterine wall. According to Eastman, these early American cesarean sections with sutures in the uterus had great influence upon Sänger's standardizing the technic for the classic operation. So Dr. Boutelle played a part in world medicine.

New Philosophy on Hair.

The man with the receding hairline and balding pate can console himself with the thought that the hair he has lost wasn't good for much to begin with, according to an article in the current issue of *Hygeia*, the health magazine of the A.M.A.

Miss J. V. Sheppard, Oak Ridge, Tenn., author of the article, says that hair has little practical use and, so far as is known, it does not receive nourishment from the body.

Those who bemoan their paucity of hair as indicative of a lack of manliness may also take solace from Miss Sheppard, who says that the notion that a lot of hair in men expresses physical strength or virility is ancient superstition. The cure of baldness, she says, depends largely on the cause. If it is the senile type, which results from the deterioration of all body cells, there is no hope of restoring the hair. The outlook is also dark for premature baldness, most of which is inherited and for which, according to the article, "there is no hope" of cure. For baldness due to the presence of microbes in the scalp, little can be done to restore the lost hair, but early treatment under the advice of a physician can do much to prevent further loss.

As a solution of the problem of the depleted pate, the writer suggests that we concentrate not so much on cures for baldness, but on establishing "a new philosophy of hair" in which its cosmetic importance is played down much more than at present.

And, oh yes, if you have nothing to do on a rainy day, Miss Sheppard suggests that you try to count the hairs on your head, if any. If you're a blond, you'll find you have around 140,000, while if you're a brunette, you'll average only about 100,000.

Surgery on "Blue Babies".

"Tremendous improvement" in the condition of 39 children who underwent heart surgery to relieve the so-called "blue baby" condition is reported by Willis J. Potts, M.D., and Stanley Gibson, M.D., of Children's Memorial Hospital, Chicago.

Writing in the current issue of *J.A.M.A.*, they say that "of 41 patients who have survived surgery, 39 have been tremendously improved; i.e., they are relieved of cyanosis [bluish complexion], have gained weight and are able to live fairly normal lives."

The operation described by Drs. Potts and Gibson is designed to increase the oxygenation of the blood stream by increasing circulation through the heart.

As described by Drs. Potts and Gibson in the current issue of *The Journal*, the procedure remains substantially the same as that first outlined in the Nov. 16, 1946 issue, except for "slight modifications in technic" and "clarification of misunderstood points."

RHEUMATIC DISEASES IN SOUTHWESTERN VIRGINIA*

R. EARLE GLENDY, M.D.,
Roanoke, Virginia.

INTRODUCTION

Before Herrick's classic description of coronary thrombosis in 1912 and the subsequent correlation between the clinical and pathological findings this condition presented no particular problem to the medical profession as such because it did not exist in their minds as a clear clinical entity. Likewise, rheumatic infection, though absorbing the attention of clinicians for many decades, has been until recent years too often regarded as a self-limited disease requiring no special care beyond its acute stage and has not occupied an important place in the clinical consciousness of the profession at large. The acute or fulminant forms present a familiar pattern but we know now that rheumatic infection can in fact be one of the most chronic of all diseases, grumbling along without clearcut symptoms unnoticed by the patient, parents or physician, either initially or following an acute attack, and requiring every diagnostic aid at our command for its detection. Rheumatic disease, and what is more the cardiac cripples that are left in its wake, constitutes a *real* problem here in Southwest Virginia. The purpose of this presentation will be to emphasize the gravity of the problem and the necessity for *early* diagnosis and *sound* management as preventive measures against cardiac invalidism in later life.

INCIDENCE

In numerous studies relating to the absolute and relative incidence of rheumatic infection and rheumatic heart disease the circumstances under which the data are collected and tabulated necessarily varies with the material available. Statistical values based on hospital admissions (medical and/or pediatric) are not closely comparable with those derived from observations on private patients. School and community studies add further difficulties in correlation, not to mention the lack of uniformity in the criteria used for the selection of cases. Nevertheless, admitting that the figures are often inadequate and of limited value, it is only through an accumulation of data from many sources and localities that the magnitude of the problem can be established.

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

The material in the present report is based upon an analysis of 1000 medical patients of all ages seen in private practice during the past two years (Dec. 1, 1945, to Oct. 4, 1947), 636 of which had some presenting cardiac sign or symptom. The remaining 364 cases were non-cardiac. Out of the total of 636 patients with cardiac signs or symptoms there were 200 in whom no structural disease was demonstrable, this number including possible and potential heart disease, cardiac neurosis, neurocirculatory asthenia, and reflex disturbances of heart action. The remaining 436 cases of organic heart disease of various etiological types comprise the number on which the relative incidence of rheumatic heart disease is based in this study.

TABLE I

Relative Incidence of Rheumatic Heart Disease Among 436 Cases of Organic Heart Disease of Various Etiological Types out of a Total of 636 Patients with Cardiac Signs or Symptoms. Southwestern Virginia. Percentages include both "Pure" and "Combined" Types.

	Percentage
Congenital Anomalies	2.1
Infections	
Rheumatic	13.8
Subacute Bacterial Endocarditis	0.2
Acute Bacterial Endocarditis	0.2
C-V Syphilis	0.0
Others, including Diph., Tbc., etc.	0.2
Thyrotoxicosis	1.6
Hypertension	
Systemic, Hyperpiesia	49.8
Pulmonary, Cor Pulmonale	1.8
Coronary Atherosclerosis, including A. P.	45.0
Misc. Toxic States, Deficiency States, Trauma, etc.	5.7
Unknown or Uncertain	3.4
Patients with Cardiac Signs or Symptoms but without Demonstrable Structural Disease, Including Possible and Potential Heart Disease, Cardiac Neurosis, N.C.A., and Reflex Disturbances	31.4

Table I shows the relative incidence of rheumatic heart disease to be 13.8 per cent in Southwestern Virginia. When one compares this figure with statistical values from various localities in the United States (see Table I-A it occupies an intermediate position, but a sufficiently formidable one to point to rheumatic disease as a problem of considerable magnitude in this region. The values obtained in this analysis have been influenced by

TABLE 1-A

RELATIVE INCIDENCE OF RHEUMATIC HEART DISEASE IN VARIOUS LOCALITIES

	Percentage
New England	30.0
New York	25.5
San Francisco	22.2
Pacific Northwest	20.0
Tennessee	15.3
Southwest Virginia	13.8
Texas	10.4
Washington, D. C.	7.2

the age groups under consideration (mostly adults) and the social and economic status of individual patients, which, for the most part, has been above the average clinic patient. With the inclusion of more pediatric and clinic patients with organic heart disease the incidence would be, in all likelihood, appreciably higher. The incidence of congenital anomolies, 2.1 per cent, conforms to the usually reported frequency of these conditions[1]. I have no explanation for the zero incidence of cardiovascular syphilis beyond the fact that no more than 2 per cent of the cases were colored. Thyrotoxic heart disease occurred in about the same frequency, 1.6 per cent, as is reported in numerous other tabulations of this kind. The two most common and serious types of heart disease, hypertensive and coronary, ran true to form with relative frequencies of 49.8 per cent and 45 per cent respectively, with considerable overlapping of the two types. Cor pulmonale was encountered in less than 2 per cent of the cases. Miscellaneous conditions such as myxedema, dietary deficiency, toxic states and trauma are more frequently recognized now as etiological factors in heart disease, and 5.7 per cent of the cases fell into this category. Despite the many advances in our knowledge of heart disease we must still leave space in our classification for those of unknown or uncertain etiology, of which there are 3.4 per cent in this group. It is noteworthy under the final tabulation in Table I that nearly one-third of the patients who present themselves with cardiac signs of symptoms have no demonstrable structural heart disease. Included in this group are 10 patients, mostly children, with recent or remote rheumatic infection but in whom no organic heart disease could be demonstrated. These cases have been added to those with structural rheumatic heart disease and analyzed separately as to age, race and sex incidence, joint manifestations, extent of valvular involvement, and other factors which influence rheumatic disease.

Table II shows a slightly more frequent incidence of rheumatic heart disease in males than females in this series, but statistical analysis usually

TABLE II

RACE,* AGE AND SEX INCIDENCE IN 70 CASES OF RHEUMATIC DISEASE INCLUDING ACUTE AND RECURRENT RHEUMATIC FEVER, RHEUMATIC HEART DISEASE AND CHOREA (SOUTHEASTERN VIRGINIA)

Decade	*Male*	*Female*	*Totals*
0-9	2	3	5
10-19	2	4	6
20-29	7	6	13
30-39	6	7	13
40-49	8	6	14
50-59	8	6	14
60-69	3	2	5
	36	34	70

*69 White, 1 colored.

shows a more frequent incidence in females in the ratio of about 4 to 3 or 5 to 4. The pre-dominance of cases in the 3rd, 4th, 5th, and 6th decades is explainable for two reasons; first, the paucity of children seen, and, secondly, the fact that the majority had chronic rheumatic heart disease. Furthermore, five cases, all over 50, who are thought to have calcific aortic valve disease have been included in this group on the basis of recent studies by Karsner and Koletsky[2], in which they report that such lesions are in the majority of instances on an inflammatory basis, chiefly rheumatic. Calcific aortic valve disease occurring in patients past 70 has not been included here because, as a rule, the dominant heart disease is non-valvular and the valvular changes are more likely to be on a sclerotic basis. No conclusions can be drawn regarding the race incidence since there was only one negro in the entire group. With few exceptions all of the patients have lived most of their lives within a radius of 100 miles of Roanoke, Virginia, which lies in latitude 37°, 15 min. N., at an altitude of 945 feet with neighboring mountainous areas as high as 3960 feet, and where the average year round temperature and humidity are 56.6° F. and 67 per cent respectively.

CLINICAL MANIFESTATIONS

The incidence of arthritis, 69 per cent (see Table III) among 58 patients in this series, though somewhat lower, roughly parallels that reported by Hart, Wood and Daughton[3] (79 per cent) for the Piedmont section of Virginia except for the frequency of initial attacks. These same authors quote an incidence of only 34 per cent rheumatic

TABLE III

JOINT MANIFESTATIONS IN RHEUMATIC DISEASE—58 CASES—SOUTHWESTERN VIRGINIA

	No. Cases	*% of Total*
Arthritis, Total	40	68.9
Arthritis at 1st Visit	15	25.8
Initial Attack	3	5.2
Recurrent Attack	12	20.6
Arthritis, History Only	25	43.0
Single Attack	15	25.8
Recurrent Attack	10	17.2
Total Single Attacks	18	31.1
Rheumatic Disease, no Evidence of Arthritis	18	31.1

arthritis for Tidewater Virginia, with the frequency of heart disease remaining fairly high. They state that an apparently low incidence of rheumatic arthritis need not mean an equally low frequency of rheumatic heart disease. The severity of the valvular manifestations in this series among those patients in which there was no evidence of arthritis (31 per cent) was as great as in those with arthritis.

The incidence of arthritis (69 per cent) obtained in this study also parallels the frequency with which a definite history of rheumatic fever or "rheumatic infection" can be found on careful investigation. Four per cent of 51 cases gave a history of chorea without rheumatism. One-third of the patients who gave no history of rheumatic arthritis did give a history of scarlet fever. Those with and without tonsils were about equally divided and two-thirds of each gave a history of tonsillar infection, but no conclusions could be drawn as to the role of tonsillitis in the development of valvular heart disease. Electrocardiographic abnormalities were present in 55 per cent of 63 cases on which tracings were made.

It is probable that in every case of rheumatic infection there is some heart disease, however slight or transient, but in some there is not sufficient deformity of the valves to produce abnormal signs. Out of a total of 70 cases of rheumatic disease in this series there were 60 (85.7 per cent) who had demonstrable valvular disease. The various types of valvular disease encountered are indicated in Table IV and will attest to the severity of cardiac involvement of the rheumatic type that occurs in this locality. Of the remaining 10 cases, 3 have questionable valvular heart disease and 7 have at one time or another had active rheumatic carditis as manifested by clinical and/or electrocardiographic findings. Thirteen (18.5 per cent) of the

TABLE IV

INVOLVEMENT OF THE HEART VALVES IN 70 CASES OF RHEUMATIC DISEASE—SOUTHWESTERN VIRGINIA

	No. Cases	*Percentage*
Valvular Heart Disease	60	85.7
Mitral Stenosis and/or Insufficiency	29	41.2
Aortic Disease Alone	15	21.3
Aortic Regurgitation	5	7.1
Aortic Stenosis	5	7.1
Aortic Regurgitation and Stenosis	5	7.1
Mitral and Aortic Disease	16	22.7
Total Mitral Disease	45	63.9
Total Aortic Disease	31	44.0

entire group with rheumatic disease had overlapping etiological types of heart disease which might be anticipated in the age groups under consideration.

COMMENT

Clinical impressions that are the result of experience are cherished by us all and tenaciously clung to, but accurate clinical impressions, which by the way, are rare, depend upon accurate painstaking observation, and unless we look with care for obscure signs and symptoms we seldom find them. No better illustration of this can be given than the case finding methods used by all health departments in the detection of tuberculosis. The clinical impression that rheumatic disease is uncommon or rare and relatively mild in Southwest Virginia is entirely erroneous. The relative incidence of rheumatic heart disease in this series (13.8 per cent) indicates its frequency and the degree of serious valvular damage (Table IV)gives testimony to the end-result no matter how mild the initial infection may or may not have been. Camp and Galvin[4], at the meeting of this Society last year, presented cases illustrating the fact that we do see in Virginia very severe and even fatal cases of rheumatic fever and pancarditis. In this present study there is one child, age 10, who falls into this category and among other things has acute glomerulonephritis which has long borne an implied association with rheumatic disease. Whether this is a true rheumatic manifestation remains to be seen, but nephritis does occur concurrently with acute rheumatic fever with variable frequency. Reich[5] has recently observed that, although rheumatic fever is more prevalent in Northern climates, there is a much greater percentage of atypical forms in Southern areas which present difficulties in diagnosis. To illustrate its protean character, he lists unusual manifestations involving nearly every body sys-

tem. We must, therefore, resort to careful consideration of all obscure fevers and atypical visceral and joint manifestations with the possibility of rheumatic fever in mind, but avoiding the prejudicial view that all obscure febrile illnesses are rheumatic. By using every available method of examination for the detection of active infection (temperature, pulse, white blood count, sedimentation rate, frequent cardiac examinations, electrocardiogram, chest x-ray, wt. record) earlier diagnosis can be made and crippling deformities of the heart prevented. It is wise to continue salicylates even after the subsidence of acute rheumatic fever, for many believe that by so doing exacerbations and prolonged convalescent periods may be avoided. Parents must be impressed with the necessity of prolonged bed rest and sanitorium-like care as long as one vestige of evidence of active infection remains.

SUMMARY

An analysis of 436 cases of organic heart disease of various etiological types among 636 patients with cardiac signs or symptoms seen in private practice shows the relative incidence of rheumatic heart disease to be 13.8 per cent in Southwestern Virginia, a figure that is intermediate in position between Northern and Southern areas of the United States. Age and sex incidence and various clinical manifestations of rheumatic disease are discussed. Cardiac involvement of a serious and permanent nature was observed in a high percentage of cases. One may conclude from this study that rheumatic disease in Southwestern Virginia is neither uncommon nor mild, at least in its end-results.

820 S. Jefferson Street

REFERENCES

1. White, P. D.: Heart Disease, 3rd Edition, 1944, The Macmillan Company, New York, P. 260.
2. Karsner, H. T., and Koletsky, S.: Calcific Disease of the Aortic Valve, 1947, J. B. Lippincott Company, Philadelphia.
3. Hart, A. D., Wood, J. E., and Daughton, A. D.: Rheumatic Fever in Piedmont Virginia—I. Incidence and Clinical Manifestations. *Am. J. Med. Sc.* **187**:352, 1934.
4. Camp, P. D., and Galvin, L.: Severe and Fatal Rheumatic Fever with Pancarditis in Virginia. *Va. Med. Monthly* **74**:304, 1947.
5. Reich, N. E.: Protean Manifestations of Acute Rheumatic Fever. *Amer. Pract.* **1**:645, 1947.

DISCUSSION

DR. WILLIAM M. MOIR, Roanoke: There are several points in connection with the subject just presented that I should like to emphasize briefly, if I may.

As Dr. Glendy points out, rheumatic fever is neither uncommon nor mild in Southwestern Virginia; and, because of this and of the serious consequences that may follow, it is obviously very important that the diagnosis not be missed. Cases may be missed, however, if the threshold of suspicion is not low, because of the relatively high incidence of atypical cases and because, typically, even the initial manifestations may be so varied and non-specific. For example, the pallor, toxemia, fever, tachycardia, anorexia, weight-loss and general malaise that may be our initial clues accompany many other severe systemic diseases and always necessitate careful evaluation.

This brings us to one of the points that should be emphasized, namely, that rheumatic fever is a generalized, systemic disease which may involve connective tissue throughout the body and that it does not necessarily confine itself to involvement of the joints or of the heart alone. To cite some well known examples we may have acute abdominal pain, simulating appendicitis and requiring very careful differentiation, as evidence of rheumatic peritonitis; or we may have rheumatic pleurisy with the characteristic sharp, stabbing chest pain on inspiration and later the accumulation of fluid in the pleural cavity; or we may find the subcutaneous nodules of such serious prognostic import because they may be indicative of widespread involvement; and there may be cutaneous manifestations, of which various types of erythema multiforme are probably the most common example.

While typically, in rheumatic arthritis, the joints most subject to stress and strain are affected first, in migratory fashion, the much rarer atypical mon-articular rheumatic arthritis must not be lost sight of. In this latter type we have involvement of single joints, such as the ankle, simulating a sprain; or of one or both sacro-iliac joints, causing low-back pain; or, indeed, any other joint in the body.

Incidentally, the difficulties attending diagnosis in a disease in which the manifestations may be so protean may in part, at least, account for the fact that not infrequently in this area we see patients with involvement of both the mitral and aortic valves but who give no history of having had rheumatic fever.

And, finally, I should like to point out that, important as it is not to miss atypical cases of rheumatic fever, it is perhaps equally important, again for obvious reasons, that careful evaluation and follow-up be made in doubtful instances in order to avoid pinning upon an individual an erroneous diagnosis of rheumatic fever, with all its attending restrictions and prognostic implications.

OCULAR EMERGENCIES*

WILLIAM P. MCGUIRE, M.D.,
Winchester, Virginia.

In presenting a paper before a general meeting of this kind anyone engaging in one of the medical specialties, and more particularly the ophthalmologist, is faced with the problem of choosing a subject which may prove to be of general interest rather than some highly specialized topic in his own field of endeavor. For this reason I have thought that the subject of Ocular Emergencies might be of interest and possibly of some value. Every physician, no matter whether a general practitioner or specialist, will at some time have patients with various eye complaints.

Foreign material in the eyes is probably the most common complaint of those seeking medical advice because of an acute eye condition. Small foreign bodies frequently lodge somewhere in the conjunctival sac or in the cornea. When this occurs the predominant symptom is pain or a scratchy sensation in the eye, the severity of the symptoms depending upon the location of the foreign body. In searching for such foreign bodies a good light is essential and the simplest is that produced by an ordinary condensing lens which will focus the light from an incandescent lamp on the eye. If the foreign body is found either on the upper or lower palpebral conjunctiva, or on the bulbar conjunctiva, it can usually be removed very easily with a toothpick swab. In the case of conjunctival foreign bodies generally no anesthetic is necessary. However, if the object has become embedded in the cornea a local anesthetic is necessary before removal is attempted. For this I have found a ½% solution of pontocaine hydrochloride to be ideal, three drops being instilled at intervals of about thirty seconds. A corneal foreign body should never be removed or an attempt made at removal with a cotton swab. This only denudes the cornea of a portion of its epithelium and tends to push the foreign body deeper into the corneal stroma. Any one of a number of sharp foreign body spuds may be used and if these are not available a 22 gauge intravenous needle attached to a syringe for a handle will serve very well. The spud or needle should be inserted just to one side of the foreign body and then worked below it. In this way the foreign body can be lifted out with a minimum of corneal damage.

Following the removal of a corneal foreign body the follow-up treatment must be directed to giving the patient comfort and promoting healing. In the past an anesthetic ointment was instilled and a firm adhesive dressing immobilizing the lids was applied. Recently, however, I have been giving these patients treatment consisting of hourly instillations of 30% sodium sulfacetimide solution with ½% pontocaine being instilled whenever pain recurred. At the end of two days the cornea should be checked to be sure that no ulceration has occurred. This can be determined by instilling one drop of a 2% fluorescein solution in the conjunctival sac and then washing it out with boric acid or normal saline. If any ulceration is present a bright green stain will be seen in the area.

In industrial areas chemical burns of the eye are moderately prevalent and present a real problem. Because of the late complications in these cases it is wiser to refer them to an ophthalmologist after immediate first aid has been given. This should consist of thorough and copious washing of the conjunctival sac with water and then sending the patient to the eye man without delay. Chemical injuries to the eyes are usually not alarming when first seen but in a period of three or four days the damage becomes more apparent, and at times appalling. A word of caution should be interjected at this point in regard to lime burns of the eye. If the foreign material is unslaked lime no solution of any kind should be instilled until the physician has carefully inspected the entire conjunctival sac, including the fornices, for the presence of particles of lime. If found these should be removed with cotton swabs before any liquid touches the eye. This procedure will be painful but it saves eyes. If unslaked lime is present and water or any other liquid touches it, it will become slaked and the burn will be much worse.

In the case of perforating injury of the globe the immediate demand is for both local and general rest. Atropine sulphate 2% or 3% should be in-

*Read at the meeting of the Medical Society of Northern Virginia, December 9, 1947.

stilled immediately and the patient sent to the hospital, preferably by ambulance. The loss of intraocular contents through muscular activity in these cases can be severely damaging. In addition to this danger the patient should be hospitalized for X-rays of the eye to determine if a retained intraocular foreign body is present so that, if feasible, it can be removed. Many intraocular foreign bodies seem to have a predilection for damaging the ciliary body, leading to a prolonged cyclitis and possibly to a sympathetic inflammation of the other eye some weeks after the injury.

Among the other reasons for which a patient may present himself to a physician is an acutely inflamed eye. This, of course, may be the result of a conjunctival or corneal foreign body as has been mentioned. Having ruled out the presence of a foreign particle there are three conditions which it is important to differentiate. These are acute conjunctivitis, acute iritis, and acute glaucoma. The treatment of the three conditions is, of course, markedly different and the therapy indicated for one is absolutely contraindicated in the others. In acute conjunctivitis there is burning and a scratching sensation in the eye; the vision is not affected; there is marked secretion; the inflammation is more marked in the fornices and fades out toward the limbus; the vessels are large and tortuous; the injection blanches upon the instillation of 1:1,000 adrenalin; the pupil and iris are normal; the cornea is clear; and the tactile tension is normal. In acute iritis the pain is moderate and deep seated in the eye; there is some blurring of vision; there is no secretion; the inflammation is more marked toward the limbus and fades out toward the fornices; the vessels are small and straight and adrenalin has no effect on the inflammation; the pupil is generally small and reacts poorly; the iris is discolored and muddy in appearance; the cornea is clear with the exception of occasional posterior corneal deposits; and the tactile tension is normal. In acute glaucoma the pain is severe, deep and radiating to the temple; the vision is foggy; the inflammation is general; the pupil is semi-dilated and fixed; the iris may appear edematous; the cornea is hazy due to edema of the epithelium; and the tactile tension is elevated markedly. The pain in acute glaucoma is generally one of the most severe that we encounter. I have had one patient who was unfortunate enough to have suffered attacks of acute kidney colic and acute glaucoma. He tells me that the pain of kidney colic is child's play when compared with that of glaucoma.

The treatment of the three preceding conditions differs in each. Conjunctivitis may be treated by the sulfonamides and by astringent solutions, iritis requires a cycloplegic in the form of atropine to dilate the pupil and put the ciliary body and iris at rest, while acute glaucoma generally requires operative intervention before the condition is finally relieved. It is especially important to differentiate between the latter two conditions for the instillation of atropine in a glaucomatous eye may well be disastrous.

Sudden loss of vision is a distressing occurrence to anyone and the general practitioner may well be the first physician to see one of these patients. There may not be a total loss of vision in the affected eye but merely a sudden field defect. In many cases this has been present for some time before being discovered, the patient finally noticing the defect when for some reason he has closed the unaffected eye. The most common causes for such catastrophies are detachment of the retina, thrombosis of the central retinal vein or a portion thereof, occlusion of the central retinal artery, hemorrhages in the retina or in the optic nerve sheath or along the optic radiations, and intraocular inflammation such as central chorioretinitis. Slower, but progressive, loss of vision occurs with corneal dystrophies, cataract, chronic glaucoma, intraocular tumors, optic neuritis and retrobullar neuritis, pituitary and other intracranial tumors, central nervous system syphilis, and occasionally the leukemias. While the history and the general physical examination may give a good lead as to the etiology of these conditions, they are so serious, and the immediate treatment of some of them is so urgent, that I feel they should be referred to a competent ophthalmologist on an emergency basis as soon as possible.

In the repair of lid lacerations there are two points which I think should be brought out. If there is a horizontal laceration of the upper lid the fact that the levator palpebrae superioris may be involved should be borne in mind and if this muscle is lacerated an attempt should be made to repair it along with the repair of the skin laceration. In vertical lacerations of either lid, which in-

volve the lid margin, simple closure of the wound does not suffice because such repair inevitably leads to a notched deformity of the lid. These are best repaired by a procedure known to the carpenter as "halving". In this a small portion of skin on one side of the laceration is removed. and a similar area of conjunctiva on the other side of the wound is removed. The defect is then closed in layers with fine mattress sutures.

Some ocular muscle imbalances, particularly those following illness or trauma constitute emergencies. The most frequent paralysis of a single ocular muscle is that of the external rectus muscle. This may occur as the result of trauma in the region of the petrous portion of the temporal bone or as a result of middle ear infection. It also occurs as the result of hemorrhage into the brain stem. The next most frequent paralysis is that of the superior oblique muscle. This is seen rather frequently as the result of head injury in which there is hemorrhage in the brain stem in the region of the nucleus of the fourth nerve, and also as a result of direct trauma to the upper inner portion of the orbit, involving the pulley of the superior oblique. Fractures through the lower orbital margin may involve the origin of the inferior oblique and this is seen not infrequently as the result of motor accidents. Some of these paralyses will clear up spontaneously in a few months while others will come to operation to get rid of the distressing diplopia which results from the paralysis.

I feel that I should not close this discussion without mentioning a few of the ocular complications of childhood. The most serious of these are congenital glaucoma and retinoblastoma. In congenital glaucoma the cornea will be found to be larger than normal and may be hazy due to edema of the epithelium. Retinoblastoma is a malignant tumor which usually occurs in the very young. The mother may notice that the child does not seem to see well, or she may notice that part or all of the pupil is white. The differential diagnosis lies between retinoblastoma, congenital cataract, and retrolental fibroplasia, the latter being found in premature infants.

The internal strabismus which is seen so often in childhood should be investigated by refraction at an early age as frequently this squint is accommodative in origin and can be partially or fully corrected by the use of glasses. In the event that there is no accommodative element in the squint the family should be prepared for the possibility of a corrective operation. When necessary I prefer to operate upon these children between the ages of four and six. After the age of four the orbit has developed sufficiently to make the operative procedure technically easier and, if the squint is corrected before the age of six when the child starts to school, he will be spared the psychic trauma of having his playmates constantly calling attention to his crossed eyes. Another frequent complication of childhood is congenital impatency of the nasolacrimal duct. This is most often due to a little fibrous membrane covering the lower end of the duct where it enters the nose. The symptoms are tearing of the affected eye with formation of pus in the lacrimal sac. This regurgitates into the conjunctival sac or may be expressed into it by pressure over the lacrimal sac. The cure of this latter condition by passing a probe through the lacrimal sac into the nose is so easy that I feel it should be done when the diagnosis is made. The longer such a procedure is deferred the greater trouble there is in clearing it and it is well known that in chronic lacrimal stenosis with the resultant chronic dacryocystitis that occurs in adults, probing of the lacrimal passages is to no avail and a more extensive operation has to be performed.

THE FALSE POSITIVE SEROLOGIC TEST*

J. W. LOVE, M.D.,
Alexandria, Virginia.

The aim of this presentation is to clarify the subject of the false positive serologic test; to classify the false positive reactions, and to provide a clinical outline for dealing with the intricacies of management of false positive serologic blood and spinal fluid, in an attempt to cure what Stokes so aptly called the "serological jitters".

It is now known and realized that the serological test may be false in a variety of diseases and conditions. These number almost 50 different diseases or conditions, some fairly frequent and some quite rare.

It has been clearly established that the usual serologic tests for syphilis may be temporarily positive as a result of diseases other than syphilis. Reports have indicated that false positive reactions, though relatively infrequent, are of sufficient importance to warrant consideration in order that the unjustified diagnosis of syphilis may be avoided.

One serologic test, be it complement-fixation or flocculation or precipitation, does not make a diagnosis of syphilis. The test is not 100 per cent specific. It is subject to error both human, inherent, and of interpretation. No laboratory test will exclude syphilis. It is only by careful examination and evaluation by the clinician that the true diagnosis of syphilis can be made.

Accumulated evidence indicates that most biologic false positive reactions will be encountered under the following circumstances:

(a) Vaccination for smallpox within the three preceding months, especially with "take".

(b) Certain febrile diseases. The more important of these diseases in this connection are malaria, infectious mononucleosis, severe respiratory tract infection including virus pneumonia and influenza, and mumps. Many other diseases are known to be capable of producing biologic false positive serologic reactions, but are of less importance because of (1) the uncommonness of the disease itself or (2) a small incidence of false positive reactions resulting therefrom. Included in this latter group are typhus fever, leprosy, chancroid, lymphogranuloma venereum, Weil's disease, relapsing fever, rat-bite fever, Rocky Mountain spotted fever, disseminated lupus erythematosus, and septicemia.

It has been observed that ordinarily the blood tests do not become positive during the febrile stage of the disease, but rather one or two weeks after the temperature has dropped. Furthermore, the false positive reactions usually subside within three to six weeks, though occasionally they may persist longer. It can be definitely stated that at least 90 per cent of false reactions will have reversed within three months of onset, and in the majority of those remaining the "reagin" titre will be subsiding.

The increasing knowledge of the importance of the quantitative serologic test has made this test very useful in the differentiation of (1) the biologic false positive, (2) the prediction of the eminence of clinical relapse, (3) as a measure of therapy, (4) follow-up of children of syphilitic parents. False positives are frequently transient and of low titre and it is of great importance to measure the titre in the false positive without treatment, and to do this periodically and repeatedly.

It is well to remember that no single titration in connection with the serological test is of prognostic significance or tells anything of the infectious stage of the disease. A titre of 4 Kahn units may be as infectious as one of 500 Kahn units, etc. The titre of the patient's serology is no measure of the patient's own immune processes.

It is felt that a classification of false positive should be of those occurring in the blood and of those occurring in the spinal fluid; and a clinical classification in (1) obvious and (2) obscure false positives.

I. BLOOD

(1) Technical errors
(2) False positive of the new-born
(3) Paradoxical false positive
(4) The general biologic false positive
  (a) Spirochetal diseases
  (b) Virus diseases
  (c) Infectious diseases
  (d) Occasional and rare diseases
  (e) Miscellaneous conditions

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

TABLE I—FALSE POSITIVE SEROLOGY IN A NUMBER OF CONDITIONS

INFECTIOUS DISEASES	VIRUS DISEASES	MISCELLANEOUS CONDITIONS	RARE CONDITIONS	SPIROCHETAL DISEASES
1. Leprosy—70% 2. Malaria—35% (Robinson) 100% at some time in disease 3. Infectious mononucleosis—18% (Bernstein) 4. Tularemia—less than 1% 5. Infectious hepatitis (occ)	1. Vaccinia—25% 2. Lymphogranuloma venereum—25% 3. Mumps (rare)	1. Malignancy—10-20% 2. Erythema nodosum—7% 3. Jaundice—2-4% 4. Pregnancy—2%	1. Pneumonia (bacillary) 2. Fever—from any cause 3. Acute lupus erythematosus 4. Sarcoidosis 5. Chicken pox 6. Measles 7. Virus pneumonia 8. Leukemia 9. Alcohol, ether, paraldehyde poisoning 10. Tetanus antitoxin and toxoid 11. Typhoid and other immunizing procedures 12. Rat-bite fever (Haverhill fever) 13. Menstruation—probably does not occur 14. Blood Donation	1. Weil's disease less than 1% 2. Yaws—100% 3. Bejel—100% 4. Pinta—100%

1. TECHNICAL ERRORS. These are usually errors due to carelessness of the personnel in the laboratory and range from mislabeled tubes to errors in interpretation. These errors are always correctable. A careful laboratory technique with checks and counterchecks will avoid most of these errors which are usually due to carelessness. If these laboratory errors were eliminated, false positives from this source would disappear.

Example: Mrs. J., aged 44. Premarital serology in one laboratory strongly positive; re-check next day in two laboratories resulted in negative serologies. Examinations one week and one month later negative. Examination one year later negative. Impression: laboratory error in the original laboratory.

2. FALSE POSITIVE OF A NEWBORN. It has been estimated that approximately 14 per cent of the serologies on newborns which are positive are falsely so. These are trans-placental false positives usually occurring in the newborn of the treated mother. It varies considerably with the number of factors in the mother, time and amount of treatment, and the time the blood is drawn from the infant. It is routinely of low titre and is not an indication of syphilis in the newborn. It should be re-checked and quantitated and followed from the eighth week subsequently.

It is felt that the use of the so-called cord Wassermann should be abandoned as it is misleading and has no bearing on the blood of the infant.

Example: Baby B., whose mother was treated from the sixth month of her pregnancy, resulted in a positive serology. At the time of birth the titre was two Kahn units and it had completely reverted to negative in eight weeks. Examinations of the infant never disclosed any evidence of syphilis. Impression: false positive in a newborn baby.

3. PARADOXICAL FALSE POSITIVES. By this designation is meant the positive serology occurring in the well-treated or over-treated individual. Frequently the titre of these bloods is so low that it cannot be measured quantitatively although it may remain qualitatively positive for months and years. These are cases of burnt out syphilis and of well-treated syphilis and the so-called "Wassermann-fast" cases.

Example: D. B., colored male, aged 40. Treated with old arsphenamine, bismuth and mercury in 1926. His blood has a titre varying from no Kahn units to two Kahn units. The spinal fluid has remained negative, as has his physical examinations over these years and it is felt that this is probably a "Wassermann-fast" case with the titre so low as to be insignificant and perhaps the changes are permanent. He has remained under observation and in good health throughout this time.

4. THE GENERAL BIOLOGIC FALSE POSITIVE. It is now known that a few persons have a positive serology without any disease whatsoever. This appears to vary from time to time and on quantitation the titre is quite low, although, conversely, it may be quite high. Frequently if these patients have any type of infection, serum changes occur

which give a positive serology. In addition to this small number of healthy people with false positives, there are a varying number of diseases and conditions which lead to transient false positives. Some spirochetal diseases such as yaws and pinta, since these are due to spirochetes, frequently produce changes which give positive serologies. It is now known that virus diseases, a host of infectious diseases, some drugs, blood donations, etc., will give false positives. As a rule nothing more than repeated quantitatives over a number of weeks is necessary, as the patients do not show evidence of syphilis.

II. Spinal Fluid

False positive serologies in the spinal fluid have been reported in a number of neurological conditions, brain tumor, encephalitis, and, in addition, malaria and mumps. These are quite rare, especially in their relationship to false positive bloods, and are usually relatively easy to deal with.

Example: White, male, aged 48, false positive spinal fluid in a glioma of the brain, proven by autopsy. Non-syphilitic with positive spinal fluid.

Clinical Classification

1. The Obvious False Positive. This group comprises those individuals who have a single or repeated positive Wassermann in which the diagnosis of syphilis seems not tenable. The jaundiced, those recently vaccinated, those with infectious mononucleosis, are representative of this group. Repetition of the test and adequate follow-up usually makes the diagnosis without question.

Example: White male, aged 27, who returned from the South Pacific and after discontinuing suppressive atabrine, had an attack of malaria. This patient's blood was repeatedly positive, the titre ranging from 2 to 8 Kahn units. When the malaria was controlled, and the patient followed up, the serology became negative and has remained so.

2. The Obscure False Positive. This type of false positive is somewhat more troublesome and is perhaps best illustrated by the biologic false positive in the healthy individual. These persons may have a false positive serology for a long time without any apparent cause. It seems that changes occur in the blood serum of these individuals which give a false positive Wassermann at some time. Frequently the greatest care must be exercised to avoid making a diagnosis of syphilis in these individuals. Extensive examination of the blood with the battery of tests, repeated quantitation of the blood serum, examination of the patient for other diseases, examination of the spinal fluid and examination of the relatives is indicated. Consultation is frequently advisable both for the patient and physician.

Example: J. P., aged 18 years. Reported to have a positive Wassermann in the course of a general physical examination. This was repeated and found to be positive in a titre ranging from 0 to 4 Kahn units. No evidence of syphilis was ever discovered. When any infectious process was present in this patient such as a simple cold with fever, the titre of the blood increased greatly, at one time reaching a titre of 320 Kahn units. Follow-up over several years disclosed that the serology in the blood ranged from 0 to 16 Kahn units and it became apparent that there was some inherent factor in the man's blood serum which gave a false positive serologic test. The tests were persistently lower with a Kolmer icebox Wassermann complement-fixation than with flocculation or precipitation tests, although occasionally the Mazzini would be negative when the other tests were positive. This man was allowed to marry and have a child and to date has remained well and has never shown any evidence of syphilis nor have his wife or baby. Impression: biologic false positive in a non-syphilitic individual.

Discussion: It is imperative that the attendant syphilotherapist use a great deal of tact and care in dealing with these cases. The false diagnosis of syphilis may cause great needless mental anguish and psychic trauma. It is imperative that he treat the patient and not the serology.

Conclusion: A classification of false positive serologies in blood and spinal fluid has been presented, as also some suggestions for the management of these cases.

108 North Washington Street.

Discussion

Dr. E. E. Barksdale, Washington, D. C.: In opening the discussion of Dr. Love's paper, I would first like to say that this subject is at least the second most important one confronting any doctor in handling the prospective syphilitic patient, if not the first most important one today. The only possible exception that I would make would be the present day role for penicillin in syphilitic therapy.

It has not been many years ago when it was considered that a positive blood test was syphilis and syphilis only. It is unfortunate that we have to learn many things in

medicine through the misery of people. The recent war has certainly opened our eyes in regard to the general biologic false positive. It was soon learned in the beginning of the war that the various routine innoculations, such as for small-pox, tetanus, yellow fever, etc., produced false positive standard tests for syphilis in a large percentage of patients. The statement has been made by eminent investigators that malaria alone would produce a false positive in 100 per cent of the cases if the tests were done often enough.

	Total Bloods	Total Positive	Per Cent Positive	Total S	Per Cent S	Per Cent S of Positive
1 January 1945	832	66	7.9%	42	5.0%	63.6%
15 January 1945	904	80	8.8%	53	5.8%	66.0%
1 January 1946	553	81	14.6%	48	8.7%	59.3%
15 January 1946	527	60	11.4%	45	8.5%	75.0%
Total	2,816	287	10.2%	188	6.7%	65.5%

This Series From U. S. Naval Hospital, Bethesda.

One cannot discuss the biologic false positive tests without first taking into consideration and differentiating between the quantitative and qualitative tests. It cannot be definitely stated that a qualitative test for syphilis has no place in either the diagnosis of syphilis or in the post-treatment follow-up. The only place for the qualitative test at the present time is as a routine screening test in hospitals and in practice. Once one receives a report of a positive qualitative test, it must from that point on be entirely ignored. From then on, in order to obtain any worthwhile information, quantitative tests are necessary. Stokes makes the statement in his textbook that in his opinion a general practitioner is not qualified to interpret quantitative tests for syphilis. I am sorry, but I disagree with Stokes. I have had considerable experience with the general practitioner and it is my opinion that he is qualified to interpret anything in medicine if he sets his mind to it. I am not discussing the syphilitic proven to be so by positive darkfield, but only that patient that presents a positive test for syphilis with no clinical evidence of it. As a general rule, we can say that in all probability true syphilis gives at least a moderately high titre which remains stationary or else increases. As a general rule, the false positive either fluctuates or decreases. In all probability no patient with no clinical evidence of syphilis and only positive serology should be treated until that serology has been followed for at least three months and preferably six. A person with a continuous low titre, if he has syphilis, probably has a burned-out case and in my mind it is questionable if treatment would help him anyway. In following these principles it is, of course, understood in the beginning that the patient has a negative spinal fluid.

I think it is worthwhile to review briefly the history of serology. Both doctors and laymen still speak of the Wassermann test. I do not in any way mean to discredit Wassermann himself, but no one today, however, does a Wassermann test. All the tests of syphilis are modifications of it and, looking at the problem from a pure biologic and scientific viewpoint, there has been no real advance in serology since Wassermann days except for time consuming devices. In my opinion, the present day serology tests of syphilis are probably the most non-specific in all medicine today if the single test is accepted on its face value.

DR. D. C. SMITH, Charlottesville: I notice the Director of the Laboratories of the University of Virginia Hospital in the audience, and this reminds me to make a comment with which I think he will agree; that is, that the term "false positive" should not be used. The test is not false. It has an implication which we do not approve. The laboratory does a certain test and reports the result. The reaction may be positive. It does not mean, necessarily, that the patient has syphilis.

Every human being apparently has a certain amount of "reagin" in his blood. This substance probably is associated in some way with general immunity and is increased in a number of conditions. The most important disease in which this occurs is syphilis, and the increase in this infection is universal. However, the laboratory tests do not always detect small amounts of the "reagin". The test may be negative in early primary syphilis. In a suspicious case of early syphilis the tests should be repeated at weekly intervals for eight weeks. In other words, there can also be "false negatives". Serologic tests for syphilis should be done on all questionable lesions before any form of treatment is administered.

No person should be diagnosed as having latent syphilis until the serological tests have been followed for four to six months and checked by a careful history and clinical examination. Conditions where there is bulk tissue involvement, such as pneumonia and carcinomatosis, may cause positive serologic tests. Most of the positive tests not due to syphilis are transitory and of low titre.

This paper of Dr. Love's is very timely and important. The physician should not lose faith in laboratory tests, but should learn how to interpret them and use them more frequently.

DR. R. D. KIMBROUGH, Richmond: The fact that serologic tests have become more and more sensitive in the past twenty-five years is part of the reason for stressing the importance of this subject at this time. Serologic tests can be made so sensitive that everybody will have a positive, and yet the term *sensitivity* is generally reserved to apply to those with syphilis, while the term *specificity* is generally reserved to apply to differentiating between those with syphilis and those without syphilis. A false positive or a false negative may be termed a non-specific test.

The evaluation of laboratories in this State as a result of the pre-marital examination law has been very helpful and has probably caused many fewer false positives to be reported.

Recent studies in the inoculation of mice and trans-

mitting the infection to rabbits from lymph glands add to the challenge of understanding what happens with regard to infection, immunity, and serology in syphilis. Mice may harbor infective material for months but show no clinical signs and no positive serology, and spirochetes cannot be found by dark field. Apparently they do not transmit this infective material to their offspring.

Recently a couple, married only a few hours, came to the office. The husband said: "My wife has syphilis; she had two blood tests and both showed this, and we were referred to you for treatment." Her history and physical were negative; quantitative serology was positive 1:2, and she had a freshly healed smallpox vaccination of two-and-one-half months. Time and repeated quantitative serology will enable a correct decision. The husband had a sort of practical and prophetic insight in this probable false positive when he said: "I don't think she has it very bad, for we have lived together off and on for a year and a half and I haven't caught it."

Scurvy, Rickets Still Present.

Despite major advances in the field of nutrition, scurvy and rickets still beset many children today, according to an editorial in the May 8 issue of *J.A.M.A.* It states:

"The clinical application of fundamental principles of nutrition is not abreast of increasing knowledge of nutrition. Infants with rickets or scurvy still appear frequently in the pediatric clinics of many of our teaching institutions. Recently a relatively small pediatric service admitted three infants with frank scurvy in as many months.

"The gratitude of the teaching staffs for such teaching material is exceeded only by the embarrassment of rationalizing the occurrence of such cases to the medical student.

"From his earliest days in medical school, the modern student has been taught that prophylactic administration of vitamins C and D should reduce scurvy and rickets to obsolescence.

"Association of scurvy with poverty, malnutrition and lack of medical care is no longer entirely valid. Many recent cases have arisen in families of moderate economic circumstances and have demonstrated optimal gains in length and weight.

"Usually patients have been observed at regular intervals by physicians. Factors other than parental ignorance or economic circumstances must be at fault.

"Almost uniformly these infants have been fed on proprietary preparations which are often represented as 'complete infant foods.'

"Indeed, the rapid gains in length and weight testify to the completeness of these foods—with the exception of vitamins. Because growth is occurring rapidly during infancy, requirements for vitamins must be fully satisfied; growth will cease if these demands are not met.

"As these preparations are usually fed under the direction of a physician, he must assume the responsibility of ascertaining specifically the vitamin content of these preparations in relation to the specific needs of the patient, regardless of the claims of the manufacturer concerning the completeness of the food.

"Reliance on such preparations for appropriate intake of vitamins is unwise since quantities of the product fed from day to day and from patient to patient are highly variable.

"Oliver Wendell Holmes said, 'A pair of substantial mammary glands have the advantage over the two hemispheres of the most learned professor's brain in the art of compounding a nutritive fluid for infants.'

"Perhaps in these days when hypofunction of the postpartum breast is a national phenomenon, refuge in the cerebral hemispheres of the learned physician is necessary. Fortified with adequate knowledge of nutrition, he can eliminate scurvy and rickets from the American scene."

THE HISTORY—AN IMPORTANT FACTOR IN DIAGNOSIS OF CORONARY THROMBOSIS*

E. L. COPLEY, M.D.,
Richmond, Virginia.

The discovery of coronary thrombosis introduced a new chapter in the study of heart disease. The revival of interest in pathology of the coronary vessels marked the beginning of an era of great discoveries in modern medicine. Heberden had described angina pectoris the chief symptom of coronary insufficiency, and Jenner had reported finding sclerosed coronary vessels at autopsies. This information practically lay dormant until an internist of our day, Herrick, correlated the symptoms and pathology of coronary artery obstruction 150 years later. In two well known papers[1] he convinced the medical world this disease was a distinct entity. Since their publication, an increasing number of physicians are alert to recognize the signs and symptoms of the newly described (but old) type of heart disease and have made great progress in working out its treatment.

There has been subsequently a marked increase in the number of reported deaths. In Virginia, in 1930, the first year separate statistics were kept for the disease, the number of such deaths reported was 126. This number steadily rose to 2100 in 1946—exactly 16 2/3 times as many as for 1930. Several factors no doubt have contributed to this increase. Certainly one of them is improved diagnosis. Others, however, have played their part. More people now reach the age when vascular changes favor thrombosis, resulting in a real increase in its mortality. A part of the increase, however, is not thought to be real. It is believed some deaths due to other causes, such as pulmonary embolus, dissecting aortic aneurism and angina pectoris, are now listed coronary thrombosis.

The diagnosis of coronary thrombosis is of increasing importance, as the mortality among us physicians indicates. An eminent Life Insurance statistician[2], in an elaborate paper, reports the recorded death rate from diseases of the coronary arteries among male physicians to be one and four-fifths that of men of the same age in the general population, i.e., for every 100 males of the same age in the general population who die of coronary artery disease, 180 physicians die. In the study, however, he did not differentiate between coronary thrombosis and coronary insufficiency.

Despite the fact the disease is still on the increase in our profession and also in the public as well, we too frequently find the diagnosis overlooked in many cases or incorrectly made in others. These are compelling reasons for careful evaluation of the evidence for correction of these errors of omission and commission.

Manifestly, it is impossible to discuss in this paper all the factors that enter into a correct diagnosis. I shall review only the chief ones, namely: x-ray studies, electrocardiographic evidence, and the evidence supplied by a thorough history.

The x-ray is of some aid in the diagnosis of calcified coronary vessels. Flouroscopy and x-ray films will also reveal ventricular aneurism—evidence of myocardial infarction. In a study of 80 cases of myocardial infarction at Mt. Sinai Hospital[3], the diagnosis was made on the basis of abnormalities of pulsation of the ventricular heart wall. If a portion of the wall moved outward while the rest of the wall moved inward, it was considered pathognomonic.

Except in hospitals, however, I believe the use of the x-ray to be impracticable for diagnosis of the acute condition. The attacks are usually of sudden onset, and the need of prompt treatment is urgent, and the risk of moving the patient anywhere far outweighs any benefit to be had from finely drawn diagnosis. Whatever the cause of the chest pain, its relief is of the first importance. When the acute emergency is over, it is feasible to obtain needed x-ray evidence, using a good portable machine. More complete x-ray studies can well be made when the patient is well along in recovery. All heart patients in my practice are given routine x-ray examinations, principally to determine the presence of any hypertrophy.

The electrocardiograph is said to be at "its brilliant best" in the diagnosis of coronary thrombosis and myocardial infarction. I believe this

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

impression has lead too many physicians to over-emphasize the value of this apparatus. It is certainly true that the convex elevation of the ST segment in leads I and IV and a concave depression in lead III definitely signify an anterior or apical left ventricular infarction. Also, elevation of the ST segment in lead III and depression of the ST segment in leads I and IV indicate a basal or posterior myocardial infarction. No other condition gives these typical electrocardiographic changes. However, the average case giving them can be diagnosed from the history and bedside findings. It is, of course, gratifying when an ecgm. confirms the diagnosis. The atypical tracings present the chief difficulty, and here reliance must be made on a study of the history and physical examination as well as the ecgm., because many factors produce changes in the ST and T segments. Sprague[4] has listed several dozen such factors other than coronary thrombosis, and has emphasized that they have no significance at all except in the instance of coronary thrombosis. The ecgm., therefore, is not as simple a matter in the diagnosis as a typical tracing would seem to make it. I believe in the majority of cases it is a laboratory procedure of great value, comparable to x-ray films of the chest in lung and mediastinal diseases, or a leukocyte count in infectious conditions. It is believed by many that the value of the ecgm. is over-emphasized and its limitations underestimated.

If care is not taken, therefore, to make use of all criteria available, the diagnosis can be both overlooked and incorrectly made. Recently, an intelligent colored widow with five children described the course of the last illness of her husband by saying he had intense pain in the chest, radiating to the arms, and a cold sweat, followed by shortness of breath. She stated a physician was called and diagnosed the attack as acute indigestion. Bed rest was not advised and the man died while sitting in his front yard. I believe coronary thrombosis was overlooked in this case. On the other hand, I was recently called to see a 70 year old white woman, who had been brought from the country to her daughter's home. A letter from her physician stated she had had an attack of coronary thrombosis and that an ecgm. confirmed the diagnosis. He had advised bed rest for several weeks. However, neither the history I obtained nor an ecgm. I made indicated coronary thrombosis. Cardiologists who treat many more cases no doubt encounter numerous such instances. Obviously, great harm is done when coronary thrombosis is either overlooked or its diagnosis incorrectly made.

In the history of diseases of the coronary vessels, the first symptom to expect is chest pain, plainly anginal in typical cases whether coronary thrombosis with occlusion or coronary insufficiency. The pain is constant, constricting, gripping and has as its primary seat "behind the breast line". It is never sharp, knife-like. It often radiates down the medial aspect of the left arm or to the lower jaw, or down both arms, or to one or both shoulders. It is made worse by work or emotional excitement and is relieved by rest. This history, therefore, is of first importance in considering a diagnosis, as it signifies unmistakable disturbance of the coronary circulation, resulting in ischemia of the myocardium.

Boyd[5] quotes Vaquez's graphic description of typical angina pectoris: "the first attack occurs in the course of apparently perfect health. After the mid-day meal on quickening his pace a little the patient suddenly feels behind the sternum a pain which startles and alarms him. He walks on, but the pain increases steadily. It extends across the upper part of the chest toward the shoulder, especially the left, passes down the arm of the same side, keeping to the inner side of the arm, to the ends of the fingers, especially the ring and little fingers. At the same time there is an indescribable dread, a firm conviction he will die if the agony continues. Mastered by the pain, the patient stops walking and, if by magic, the pain stops also. The intermission may last for several days or weeks or even longer. All seems forgotten when, for the same cause, walking after a meal, the pain reappears with the same symptoms. This time it is more tenacious. The patient no longer tries to master the pain. At each instant he is obliged to stop, assuming an indifferent attitude before a shop window to avoid attracting the attention of passers-by; but his pale and anxious face, the aspect of suffering that changes his expression, the rigidity of his attitude, the care with which he supports his painfully numb left arm with his right hand, all tell the experienced eye that this saunterer so engrossed by his sensations is an unlucky mortal in the grip of an angina."

The history of an attack of chest pain is important in determining whether it is cardiac in origin, and, if so, to label it properly coronary thrombosis or coronary insufficiency. Master[6] and his colleague, in an interesting study, have shown that coronary insufficiency is as distinct an entity as coronary thrombosis. They have emphasized that coronary thrombosis with occlusion is an irreversible process with no direct means of prevention nor treatment other than symptomatic; and that coronary insufficiency is preventable by means of lessened exertion and numerous remedies now familiar to us all. In the recognition of coronary thrombosis, and to differentiate it from coronary insufficiency, it is important to classify the pain as to severity, its duration and gradation. It is longer continued in coronary thrombosis, its position less fixed, and when a distinct palor, drop in blood pressure, low-grade elevation of temperature and leukocytosis follow, the diagnosis is generally coronary thrombosis with occlusion. In such cases, there is also a likelihood of hearing moist rales at lung bases and pericardial friction sounds. An ecgm. is of value in confirming or ruling out this diagnosis.

Sometimes severe chest pains will give only transient changes in the ecgm., no drop in blood pressure or other signs. Such instances, I believe, are coronary insufficiency and should be treated as such, to prevent the development of coronary thrombosis or sudden death. The mild or very mild pain can be diagnosed only on the basis of its history, as there are no ecgm. changes at all, neither fever nor leukocytosis. Such pain usually occurs with increasing frequency on exertion. Both the severe and mild types of pain due to coronary insufficiency can be prevented by keeping the patient within his exercise tolerance. Of distinct value in the diagnosis of coronary insufficiency is the use of nitroglycerine, which gives instant relief.

Pain due to coronary thrombosis may and does occur at any time of the day or night. I have been called as often in the middle of the night as in the day to treat such cases. On the other hand, an attack of coronary insufficiency almost invariably follows exertion. In both conditions, the patient has difficulty in describing his pain. He rather puts his hands across his chest to indicate its site. In coronary thrombosis the patient emphasizes his sense of impending disaster. He states he will die if relief is not given. In coronary insufficiency, he emphasizes chiefly the severity of the pain.

Anginal pain, whether due to coronary thrombosis or coronary insufficiency, manifestly, should be differentiated from that due to extra-cardiac causes, such as arthritis, intercostal neuralgia, gall bladder disease, neuro-circulatory asthenia or to the more serious conditions; such as dissection of aortic aneurism, pulmonary embolism or pericarditis.

Master states half of his office patients suffering from acute coronary diseases are instances of coronary insufficiency and that post-mortem examinations and other data indicate that 25 to 40% of all fatal acute coronary diseases are due to coronary insufficiency. I have several such cases who have definite symptoms of coronary insufficiency and none of the usual signs of coronary thrombosis with occlusion. They are doing well on a restricted regime of exercise and the administration of some of the well-known vaso dilators. A typical case is that of a railroad engineer, seen within the past year. He stated he had had repeated attacks of chest pain which had been diagnosed coronary thrombosis with occlusion. He had taken medication constantly and had carried out strict bed rest for periods of several months during the previous year. On exercising, however, after each period of bed rest, his pain had returned, which greatly alarmed him. Several ecgms. and other laboratory tests did not reveal coronary thrombosis. The diagnosis, therefore, was coronary insufficiency and treatment consisted chiefly of assuring him he did not have the disease. After a month of graded exercise, he was allowed to do light work in the railroad shop, and advised to take nitroglycerine and to rest whenever his pain returned. This man has worked steadily since, with decreasing pain on exertion.

It is unfortunate to diagnose normal hearts coronary artery disease on the basis of ST and T changes due to other causes. It is also a mistake to confuse coronary thrombosis with coronary insufficiency.

There also is the economic aspect to be considered. It makes little difference whether the diagnosis in a man 75 years old is coronary insufficiency or coronary thrombosis so far as his future occupation is concerned. In either case, his life is nearly spent.

It makes considerable difference, however, whether

one 45 years old has coronary thrombosis or coronary insufficiency, and a correct diagnosis is of the greatest importance. If he has coronary thrombosis, he should be confined to bed for several weeks, not allowed to work for several months and faces the prospect of heart failure within ten years at the longest. This rest is unnecessary and costly if the condition be coronary insufficiency; whereas, if one with this condition be kept within his exercise tolerance and given proper medication, he can find some suitable and gainful occupation and may live out his full span of years.

The technical aids the physician has at his disposal in many instances will not establish a definite diagnosis, while information obtainable from a careful history often will. We are on safe ground in placing much confidence in the testimony of a thorough history. Heberden and Herrick had only a study of the patient to guide them when the former described angina pectoris and the latter wrote first on coronary thrombosis.

SUMMARY

The opinion that the diagnosis of coronary thrombosis is overlooked and incorrectly made is expressed. The need of a proper evaluation of the criteria necessary to properly label the condition is stressed. It is pointed out a thorough history of an attack will usually enable one to make a correct diagnosis, and to avoid an incorrect one.

X-ray examination is not believed to be practicable as an immediately applicable means of diagnosis.

Both the value and the limitations of the ecgm. are pointed out. This laboratory procedure is described as one of the aids in diagnosis comparable in value to the roentgenogram in diseases of the lung and to a leukocyte study in infections.

Anginal pain is described and emphasized as being the first and most important factor in the diagnosis of coronary thrombosis. The importance of differentiating coronary thrombosis from coronary insufficiency is also stressed.

REFERENCES

1. Herrick, J. B.: Clinical Features of Obstruction of the Coronary Arteries. *J.A.M.A.* **59**: 1912.
2. Dublin and Speigelman: Longevity and Mortality of American Physicians. *J.A.M.A.* **134**: 1947.
3. Master, A. M., Gubner, R., Dack, S., and Jaffe, H. L.: The Diagnosis of Coronary Occlusion and Myocardial Infarction on Flouroscopic Examination. *Am. Heart. J.* **20**:475-485, 1940.
4. Sprague, H. B.: Normal Electrocardiograms in the Presence of Coronary Disease. *Mod. Concepts Cardiovasc. Dis.* **10**: 1941.
5. Boyd, William: The Pathology of Internal Disease, p. 68. Lea & Febiger.
6. Master, A. M.; Dack, Simon, and Jaffe, H. L.: The Role of Effort, Trauma, Work, and Occupation in the Onset and Subsequent Course of Coronary Artery Obstruction. *M. Ann. D. C.* **79**: (March) 1941.

   Master, A. M.; Dack, Simon; Grishman, Arthur; Field, L. E., and Horn, Henry: Acute Coronary Insufficiency—An Entity—Shock, Hemorrhage and Pulmonary Embolism as Factors in Its Production. *J. Mt. Sinai Hosp.* **14**:8 (May-June) 1947.
7. Master, A. M.: Correspondence. *J.A.M.A.* **135**: No. 3, p. 179.

DISCUSSION

DR. PAUL D. CAMP, Richmond: I sincerely enjoyed Dr. Copley's very good paper and wish to congratulate him on making such a practical presentation to this Society. He mentioned in a proper manner the aid to be had from the more specialized procedures of the X-ray and the electrocardiogram, but he had the courage to put the main emphasis exactly where it belongs, namely, on the history.

The history is an important factor in the diagnosis of coronary thrombosis. It is an even more important factor in the diagnosis of coronary insufficiency, for the history of angina pectoris affords us the only reliable means of arriving at a diagnosis of coronary insufficiency, with the exception of certain electrocardiographic changes. Nearly one-fourth of the cases of angina pectoris will show an apparently normal heart by all methods of examination, including routine physical examination of the heart, blood-pressure determination, X-ray studies, and electrocardiographic studies. Thus we see that in almost one-fourth of the cases of this very important disease of coronary insufficiency we have to rely entirely upon the history in arriving at the final conclusion as to whether or not the patient has angina pectoris. Furthermore, there are no signs of angina pectoris *per se* except the electrocardiographic changes mentioned.

I certainly agree with Dr. Copley that some physicians greatly over-value the electrocardiographic findings and under-estimate the limitations of the electrocardiogram. We are likely to forget the twenty to twenty-five per cent of normal electrocardiograms that we shall find in definite angina pectoris. I am afraid there is a tendency to over-value the mechanized graphic findings and to put too little emphasis on the less dramatic art of history-taking. I consider it the obligation of the doctor himself to obtain the history from all patients in whom he suspects any cardiovascular disease, or if the patient thinks he has cardiovascular disease. I do not believe that such an important proceeding should be delegated to the office help.

Dr. Copley's quotation of Vaquez' description of angina

pectoris is helpful and interesting. William Heberden's original communications on angina pectoris, entitled "Some Account of a Disorder of the Breast", in July, 1768, is a classic. Some of his cases, however, were complicated by myocardial infarction.

I do not think it is necessary to dwell further on the history obtained from a patient with a real coronary thrombosis with resulting myocardial infarction. May I say just a few words, however, about the clinical entity of angina pectoris resulting from coronary insufficiency. I think we use the term "pain" much too frequently in connection with angina pectoris. Much more often than not the sensation is not one which we ordinarily associate with pain. It is usually a sensation of oppression or congestion, often paroxysmal in character, located in the region of the sternum and brought on by exertion and relieved by rest in a few minutes. Often there will be an associated discomfort in the arms, particularly the left arm, especially if the patient fails to stop, and the oppression in the chest increases. This discomfort in the arm may be described by the patient as a burning or tingling sensation, often as the feeling of compression as if by a tight band, or in certain cases as a feeling that the arm is about to burst from pressure. It is especially important to inquire as to whether or not the discomfort in the arm is always associated with the discomfort in the chest. Occasionally a patient with angina will complain of a burning type of pain, and others will complain of a feeling as though the heart at the time of the attack is too large for the front of the chest. Time will not permit me to go into the numerous variations of description given by patients.

I wish to re-emphasize the important factor of almost a certain amount of exertion, under given conditions, bringing on the sensation of paroxysmal substernal oppression and its relief by rest in a few minutes. Any anginal type of pain lasting over thirty minutes is most likely not simple angina pectoris. It may be due to any number of things. If it is related to the cardiovascular system it is probably a definite coronary thrombosis or the pain of an associated cardiac anxiety neurosis. The latter is more often a precordial ache that lasts for hours at a time.

Finally, I believe it is proper to remind all of us to give careful and serious consideration to the patient who complains of discomfort, even slight, located in the sternal region and brought on by exertion and relieved by rest. Such a history is usually of more serious import than one in which the patient emphasizes the pain.

Floral Eponym (63)

MATTHIOLA

Matthioli, Peter Andreas, 1500-1577

THE name was originally spelled Mathiola and is sometimes spelled Mattioli or Matthiole. He was an Italian doctor and naturalist, born at Siena. He practiced with success in his native city. In 1552, at the invitation of Ferdinand, king of Bohemia, he moved to Prague and became the first physician to the Emperor Maximillian. He described a great number of animals, plants and minerals and wrote among other things a commentary on Dioscorides. He died at Trente of the plague.

Matthiola is a genus of perhaps 50 species widely distributed in the Old World and Australia. They are grown in our gardens under the name of stock or gilliflower The Virginian stocks belong to the genus Malcomia.

PRIMARY SPONTANEOUS PNEUMOTHORAX*

ALFRED L. KRUGER, M.D.,
Norfolk, Virginia.

This report concerns itself with the review of 24 cases of primary spontaneous pneumothorax, observed during a five year period. All of these patients were healthy individuals who were asymptomatic until the time of the occurrence of their spontaneous pneumothorax. At no time during the existence of the collapse nor after complete re-expansion of the lung had occurred, was there ever noted any intrapulmonary pathology.

ETIOLOGY

The etiological relationship of pulmonary tuberculosis to spontaneous pneumothorax has been, and to a certain extent still is an accepted dictum of the older writers. As a pneumothorax is a not infrequent complication of active pulmonary tuberculosis, it has been assumed that a latent tuberculosis is the cause of most of these cases of pneumothorax in the apparently healthy. This assumption is no longer tenable. The more general employment of the tuberculin test has served to show that an antecedent tuberculous infection is not necessary to the occurrence of spontaneous pneumothorax. A positive reaction does not necessarily indicate clinical tuberculosis, but a negative test excludes this diagnosis provided there are none of the conditions that would depress the allergic response. Leggett, Myers and Levine[1], found that over fifty per cent of their cases showed a negative tuberculin test. Ornstein and Lercher[2] found sixty per cent of their cases were negative. Fifty per cent of the cases tested by Cohen and Kinsman[3] were also negative to tuberculin. Ten of the cases in the present series had a tuberculin test done and seven, or seventy per cent, were negative. These percentages are what you would find in routine tuberculin testing of normal groups.

In further support of the non-tuberculous etiology of these cases, Wilson[4], in a study of over a thousand consecutive admissions to a sanatorium, found only one history of a simple spontaneous pneumothorax with complete recovery some time before the onset of pulmonary tuberculosis. The few published series of pneumothorax cases followed for a period of years show that pulmonary tuberculosis rarely follows this condition regardless of the treatment. In a comprehensive review of the literature in 1937, Wilson[4] was able to find only three such cases reported in the literature.

The pathogenesis of primary spontaneous pneumothorax is explained on the basis of one of three mechanisms:

1. Rupture of subpleural emphsematous blebs. These are of frequent occurrence in the apices and in the upper anterior margins of the lung. The theory has been advanced that under conditions of increased thoracic pressure, such as produced by coughing, sneezing or straining, with the glottis closed, air is forced from the bases of the lungs into the upper lobes, thus distending their capacity to the utmost[2]. This forcing of air into the upper lobes occurs more frequently in the muscular male adult and explains the overwhelming preponderance of this condition in males with relatively few cases reported in the female sex. This forceful inflation could easily overdistend and rupture the elastic fibers in the subpleural alveoli in the upper lobe. The apex of the lung lies in the least solid part of the thorax and the inflation and over-distention must be greater than in any other part of the lungs. It is well known that not every case with emphysematous blebs will develop a spontaneous pneumothorax. Many cases are seen at postmortem with large bullous emphysematous blebs with no history of this complication having ever occurred. This accident is attributed to a check-valve mechanism which manifests itself in the form of inspissated exudate or scar tissue in the region of the bleb and the adjacent bronchiole. The air in most blebs can easily be expressed, while in some the reduction of the blebs is most difficult. The occurrence of a check-valve mechanism allows air to enter and little or none to escape, so that the bleb becomes distended and thin-walled and finally ruptures. This continued enlargement and the thinning of the walls in obstructive emphysematous blebs explain the sud-

*Read before the Norfolk County Medical Society, October 20, 1947.

den rupture that may occur at any time irrespective of the factor of exertion.

2. Rupture of interstitial emphysematous blebs. Hamman[5] feels that there is an intimate relationship between mediastinal emphysema and pneumothorax. In about one-third of the cases of mediastinal emphysema there is an associated pneumothorax. It is now well established that mediastinal emphysema is usually the result of rupture of pulmonary alveoli with the production of interstitial emphysema of the lung. This, too, may result from an increase in intrapulmonary pressure, as seen in coughing, sneezing or straining with the glottis closed. Or it may even occur when there is no evidence whatever of the presence of any condition leading to increased alveolar pressure. The fact that spontaneous mediastinal emphysema tends to recur suggests that there may be an inherited defect of tissue quality[5]. The air, once in the interstitial tissues, may dissect not only towards the mediastinum, but also to the subpleural tissues and there form a pleural bleb which may rupture.

3. Congenital cystic disease of lungs. A rupture of one of these cysts may produce spontaneous pneumothorax[6].

INCIDENCE

It is difficult to determine the true incidence of idiopathic spontaneous pneumothorax because it is well recognized that the condition may occur with little or no symptoms. Wilson[4] reported finding five cases without symptoms in routine chest roentgenograms of Yale students during a four year period. O'Loughlin[7], in a review of 24,615 routine chest roentgenograms made upon separation from Army service, found five cases of spontaneous pneumothorax. Leach[8] discovered four cases found on routine x-ray examination. Kjaergaard[9], in 1932, reported on fifty-one cases found in the hospitals of Denmark in a careful search over a twenty year period. He noted that there were more cases uncovered in the last five of the twenty year period than in the first fifteen, and explained this by the improved facilities for diagnosis. Perry[10] has reported eighty-five cases at the London Hospital over a fourteen year period. Blackford[11] cited fifteen cases found in the student body at the University of Virginia. Wilson[4] reported on eleven cases during a five year period among male students at Yale University. Niehaus[12] recently reviewed 24 cases, fourteen of which covered a fifteen year period at the University of Iowa Hospitals and the remaining ten were seen during a nine year period at the Rees-Stealy Clinic in California.

SEX AND AGE

Our experience is similar to all previous investigators who reported the decided predilection for the disease to occur in males[2,3,4,7,8]. All of our patients were of the male sex.

It was also our experience, as has been noted by others, that this condition occurred in a young age group. Twenty-two of the twenty-four cases were in the ages between eighteen and twenty-six years. The oldest patient was thirty years of age.

ONSET AND SYMPTOMS

The onset of symptoms is usually sudden. Fourteen of the patients stated that there was no act of exertion before their attack and they could definitely remember what they were doing when the pneumothorax occurred. Five were sitting, eight were leisurely walking, one developed his chest pain on awakening, and one when he bent over to tie his shoes. The other nine of the patients gave a history of exertion, such as running, dancing or lifting some heavy object at the time of the occurrence of their pneumothorax. In only seven cases the symptoms were sufficiently acute as to cause them to seek medical care within five hours of the onset of their symptoms, whereas in the remainder, because their symptoms were of a milder nature, but had persisted, medical aid was postponed for from seven hours to as long as thirteen days after the onset. Pain is usually the first complaint. It was the initial complaint in all of our patients. It may be felt on the side of the pneumothorax anywhere from the upper abdomen to the shoulder. It may even radiate down the corresponding arm. This was true in two of the cases. Although the pain may be constant, it is usually intensified by deep inspiration. Dyspnea was complained of in fifteen of the cases but in only seven cases was it objectively present when the patient was at rest, and then to only a very slight degree. This completely disappeared after several days of bed-rest. In no case was dyspnea of sufficient severity to warrant the withdrawal of air from the pleural cavity. No case presented cyanosis. Only two of the patients had a

CLINICAL DATA IN 24 CASES OF PRIMARY SPONTANEOUS PNEUMOTHORAX

No.	Age	Side	Exertion	Symptoms	Degree of Collapse*	Temp.	White Blood Count	Sed. Rate	Tuberculin Test	Previous Attacks	Time for Re-Expansion —Days—
1.	18	Right	Sitting in chair	Chest pain	Moderate	Normal				0	20
2.	24	Right	Walking	Pain in chest & shoulder	Slight	Normal	10,000			0	14
3.	23	Left	Walking	Chest pain Slight dyspnea	Marked	Normal				0	50
4.	22	Left	Bending over to tie shoes	Chest pain	Slight	Normal				2	13
5.	22	Right	Sitting	Pain in shoulder & arm	Slight	Normal	8,500	3 mm.	Negative	0	16
6.	18	Right	Sitting	Chest pain Dyspnea	Moderate	Normal	11,100		Negative	0	34
7.	20	Left	Walking	Chest pain Pain in arms	Slight	Normal	8,100			0	19
8.	20	Right	Drilling	Chest pain Dyspnea	Moderate	Normal	5,300			1	20
9.	20	Right	Walking	Chest pain	Slight	Normal				0	9
10.	30	Left	On awakening	Chest pain	Marked	Normal	6,750		Negative	0	28
11.	23	Left	Walking	Chest pain	Slight	Normal				0	16
12.	22	Left	Running	Chest pain	Moderate	Normal	9,450			0	23
13.	22	Right	Running	Chest pain	Slight	Normal				1	14
14.	25	Left	Sitting	Chest pain	Marked	Normal	8,500			0	25
15.	23	Left	Lifting	Chest pain Dyspnea	Marked	Normal				0	23
16.	19	Right	Grinding meat	Chest pain	Moderate	Normal	6,900	8 mm.	Negative	0	6
17.	29	Right	Running	Chest pain Dyspnea	Marked	Normal				0	50
18.	21	Left	Sitting	Chest pain	Slight	Normal	13,500	6 mm.	Negative	0	20
19.	19	Left	Dancing	Chest pain	Slight	Normal	9,600	2 mm.	Positive	0	10
20.	26	Right	Running	Chest pain Dyspnea	Marked	Normal	8,200		Negative	0	57
21.	21	Right	Walking	Chest pain	Marked	Normal	8.400			0	60
22.	24	Right	Running	Pain in chest & shoulder	Marked	Normal	8,000		Positive	0	28
23.	20	Right	Walking	Chest pain Dyspnea	Marked	Normal		5 mm.	Negative	3	21
24.	23	Right	Walking	Pain in chest & shoulder	Slight	Normal	8,900	2 mm.	Positive	0	11

*Slight—5 to 25%, Moderate—30 to 50%, Marked—over 50%.

minimal dry cough. None of the cases presented any elevation of the temperature.

Blood counts were done on fifteen of the patients. All but two had a white cell count under 10,000 with the highest count being 13,500. All had a polynuclear count of less than 70 per cent. The red cell count and hemoglobin were not affected in any. Sedimentation rates were done on six cases and all were normal.

Physical Examination

Contrary to the usual description of shock, increased respirations and rapid pulse, none of the patients in this series presented such a picture when first seen. Even those who presented an almost complete collapse of the lung were very comfortable when at rest. This may be explained on the basis that all were healthy young individuals with no antecedent history of any pulmonary symptoms or pathology. Fourteen of the cases had their pneumothorax on the right and ten were on the left side. This is similar to the experiences of others who report a slightly greater frequency of involvement on the right[2,8,12]. The physical signs are purely those of pneumothorax, namely, hyperresonance, suppression of fremitus, voice and breath sounds, and occasionally, one may find a lag in the movement of the thorax over the involved lung. In those with a minimal pneumothorax we have found the presence of abnormal signs to be best discernible in the infraclavicular area. The variable degree of these signs depends directly upon the degree and extent of collapse present. Similarly, the presence or absence of deviation of the heart and mediastinal structures to the opposite side and depression of the diaphragm, will depend directly on the degree of collapse.

X-Ray Findings

The roentgen ray examination furnishes the exact means of diagnosis, and in determining the degree of pulmonary collapse. However, it must be remembered that the routine procedure in chest roentgenography is to take the film in deep inspiration. Where there is a small mantle-type of collapse present, it may not be obvious in the routine film. A second film should be made, if the diagnosis is suspected, in deep expiration which will cause the lung to deflate and emphasize more clearly the outline of the visceral pleura.

In ten of the cases the collapse was considered to be small (less than 25 per cent), five had a moderate collapse (between 25 and 50 per cent) and nine cases presented a pneumothorax greater than fifty per cent. In none of them were there any adhesions evident. Ornstein and Lercher[2] noted that only three of their fifty-eight patients showed x-ray evidence of adhesions, and therefore felt that this was another factor against a tuberculous etiology. All three cases with adhesions developed tuberculosis about two years later.

Several of the cases developed a minimal effusion which was only noted on x-ray as obliterating the costo-phrenic angle. All promptly reabsorbed spontaneously. Twenty-five per cent of Cohen and Kinsman's[3] series also showed a tiny pleural effusion. Ornstein and Lercher[2] found 38 per cent of their cases to have a similar degree of effusion, which also spontaneously absorbed. They felt that this was no indication of an underlying tuberculous pulmonary condition.

Time for Re-Expansion

The re-expansion of the lung depends chiefly on the closure of the pleural opening and on the degree of collapse. Fortunately, most ruptures of blebs produce small openings in the visceral pleura which rapidly close. Nineteen of the cases herein reported had completely re-expanded in from one to four weeks. The remaining five cases required from thirty-four to sixty days for complete re-expansion, and these had an initial collapse of eighty to ninety per cent.

Prognosis

The prognosis in spontaneous pneumothorax is almost uniformly excellent. Tuberculosis as a sequel to spontaneous pneumothorax is extremely rare, certainly of no greater occurrence than in the normal population. Recurrences are not infrequent, however. Wilson[4] reported twenty per cent, and Ornstein and Lercher[2] thirty per cent. One of the patients in this series was observed for a period of fourteen months. During this time, he had four recurrent attacks on the right side and three attacks on the left side and on one occasion had a simultaneous bilateral pneumothorax. On the latter occasion, the extent of the pneumothorax was approximately fifteen per cent on each side, and except for mild chest pain, he had no other symptoms, and was in no respiratory distress while at rest. The addi-

tional complication of a hemothorax associated with a spontaneous pneumothorax is quite rare. Hartzell[13], in 1942, in an excellent review of the subject, found only forty cases in the literature and added three of his own. Fatal hemorrhage in spontaneous pneumothorax is even more rare. Helig and Schmidt[14], in 1947, were able to find only thirteen such instances on record that were confirmed by necropsy, and added one of their own. The apparent cause for the hemorrhage is a torn vascular adhesion.

Differential Diagnosis

The presence of an underlying pulmonary lesion as the etiological agent responsible for the occurrence of a spontaneous pneumothorax can usually be determined by the clinical history and by x-ray. It may, occasionally, be difficult to rule out, at the onset, an underlying tuberculous lesion because of the inability to completely visualize the entire lung field. The presence of fever, an elevated sedimentation rate and a pleural effusion of more than minimal extent should make one strongly suspect a tuberculous etiology. Careful observation by weekly fluoroscopic study during the period of re-expansion is essential. Should a lesion suspicious of being tuberculous be found in the lung during the process of re-expansion, the desirability of maintaining the pneumothorax should be definitely considered. After the lung has completely re-expanded, it is important that an x-ray be taken to make more certain that the lung fields are clear. Finally, the tuberculin test is most useful in promptly eliminating the suspicion of tuberculosis.

Coronary thrombosis may well be confused with this entity, especially when the pneumothorax occurs on the left side with the pain radiating to the left shoulder and down the left arm. This was noted in two of the cases. Horine[15] reported on three cases whose chief complaints were referred to their hearts.

Steigmann and Singer[16] and Hadley[17] have reported cases of spontaneous pneumothorax whose symptoms simulated a perforated peptic ulcer.

Treatment

The immediate treatment of spontaneous pneumothorax will depend on the degree of collapse and on the severity of the symptoms. Where there is a partial pneumothorax with no, or slight, respiratory embarrassment, simple bed-rest with mild sedation for restlessness or pain is all that is necessary. Rest in bed for one or two weeks with gradual resumption of activities will be sufficient for these cases. This regime was successfully used in all of the patients in this series. Violent or strenuous activities should be discouraged.

An extreme collapse of the lung associated with marked dyspnea at rest calls for complete bed-rest, morphine or codeine for pain and removal of air. This should, if possible, be done with a pneumothorax apparatus, if available, so that only sufficient air should be removed to relieve distress without increasing the intrapleural negative pressure, as this will only serve to keep open the pleural perforation.

In cases of recurrent spontaneous pneumothorax, it has been found that the creation of a sterile pleural exudate with the object of obliterating the pleural space has been most successful. Various substances have been injected into the pleural space for the purpose of creating a chemical pleuritis. Hypertonic glucose, hypertonic saline solution, Gomenol, iodized oil and sterile mineral oil have all had their advocates. The intrapleural injection of 10 cc. of sterile mineral oil will usually suffice to cause a pleuritis with an effusion. When the lung completely re-expands, an obliteration of the pleural space can usually be anticipated. This procedure was done on the one case of bilateral, recurrent spontaneous pneumothorax included in this series. He was followed for one year after the treatment and had no recurrences during that time. Niehaus[12] treated two of his cases in this manner and successfully obliterated their pleural space.

Tension pneumothorax (none of the present series were of this type) results when the communition between the lung and the pleura acts as a one way valve. Air can enter the pleural cavity during inspiration but its escape is prevented during expiration, so that the pneumothorax tends to increase in size and tension. As a result, the patient's dyspnea progressively increases. The majority of these patients will get well under conservative treatment, for, as the intrapleural pressure is raised, the valve-like tear will usually close. The removal of sufficient air for relief of dyspnea may become an emergency measure, but, again, just enough air should be removed for some relief. Creation of a

markedly negative pressure should be strictly avoided during the first few days, lest with each inspiration the air will again escape from the lung through the fistula. When the fistula remains closed for a few days, it may become obliterated and thus promote a spontaneous cure of the pneumothorax. On the other hand, the fistula may not close and air will rapidly refill the pleural space with increase in dyspnea in spite of repeated air aspirations. In these cases a small catheter will have to be inserted through a trocar into the pleural space with an under-water attachment. The site best adapted for this is the second anterior interspace, as, during the process of re-expansion, the base of the lung usually expands first.

In some instances, the fistula will not close spontaneously, and will have to be closed artificially. In these cases where the broncho-pleural opening persists, a state of chronic pneumothorax exists. Thoracoscopy is valuable when the lung is maintained partly expanded by strands of pleural adhesions. It has been shown that in this type of case, the tear may be kept open by the strands of adhesions[18]. Cauterization of the adhesions will bring about complete collapse of the lung and thus closure of the fistula. When no adhesions are seen, or when the endoscopic treatment has not been successful, the creation of a chemical pleuritis may be effective. Hennell and Steinberg[19] cured five cases of chronic pneumothorax by this method.

CONCLUSIONS

1. Primary spontaneous pneumothorax may be defined as a pneumothorax occurring in previously healthy individuals, usually characterized by an afebrile benign course with complete recovery in a few weeks.

2. The concensus of opinion regarding the etiology of primary spontaneous pneumothorax is that it results from a rupture of a subpleural vesicle or bleb.

3. The re-expanded lung shows no evidence of any disease process.

4. Tuberculin tests are positive in no greater percentage than in the normal population.

5. In the majority of cases, there was no history of physical exertion preceding the attack.

6. The prognosis in the uncomplicated cases of simple spontaneous pneumothorax is excellent and recovery complete. The production of a chemical pleuritis for recurrent attacks of simple spontaneous pneumothorax is usually effective in obliterating the pleural space.

BIBLIOGRAPHY

1. Leggett, E. A., Myers, J. A., and Levine, I.: Spontaneous Pneumothorax—31 Cases. *Am. Rev. Tuberc.* **29**:348-369, 1934.
2. Ornstein, G., and Lercher, L.: Spontaneous Pneumothorax in Apparently Healthy Individuals. *Quart. Bull., Sea View Hosp.* **7**:149-187, 1942.
3. Cohen, S., and Kinsman, J. M.: Non-Traumatic Spontaneous Pneumothorax Among Military Personnel. *New Eng. J. of Med.* **235**:461-467, September 26, 1946.
4. Wilson, J. L.: Spontaneous Pneumothorax. *International Clinics* **1**:157-175, March, 1937.
5. Hamman, L.: Mediastinal Emphysema. *J.A.M.A.* **128**:1-6, May 5, 1945.
6. Schenck, S. G.: Congenital Cystic Disease of Lungs—Clinicopathological Study. *Am. J. of Roentgenol.* **35**:604-629, 1936.
7. O'Loughlin, B. J.: A Study of 24,615 Separation Chest Roentgenograms. *Radiology* **48**:389-391, April, 1947.
8. Leach, J. E.: Pneumothorax in Young Adult Males. *Arch. Int. Med.* **76**:264-268, 1945.
9. Kjaergaard, H.: Spontaneous Pneumothorax in the Apparently Healthy. *Acta. Med. Scand. Sup.* **43**: 1-159, 1932.
10. Perry, K. M. A.: On Spontaneous Pneumothorax. *Quart. J. Med.* **8**:1-21, 1939.
11. Blackford, S.: Spontaneous Pneumothorax in College Students. *J.A.M.A.* **113**:1-8, August 26, 1939.
12. Niehaus, R. F.: Simple Spontaneous Pneumothorax in Apparently Healthy Individuals. *Am. J. of Roentgenol.* **57**:12-27, January, 1947.
13. Hartzell, H. C.: Spontaneous Hemopneumothorax. *Ann. Int. Med.* **17**:49-510, 1942.
14. Helwig, F. C., and Schmidt, E. C. H.: Fatal Spontaneous Hemopneumothorax—Review of the Literature and Report of a Case. *Ann. Int. Med.* **26**:608-617, 1947.
15. Horine, E. F.: Heart Symptoms Caused by Spontaneous Pneumothorax in Persons Otherwise Normal. *South. Med. Jour.* **31**:1253-1255, December, 1938.
16. Steigmann, F., and Singer, H. A.: Spontaneous Pneumothorax Simulating Acute Abdominal Affections. *Am. J. Med. Sci.* **192**:67-72, July, 1936.
17. Hadley, H. G.: Recurrent Spontaneous Pneumothorax. *Dis. Chest* **7**:166-172, May, 1941.
18. Brunner, A.: Treatment of So-called Idiopathic Spontaneous Pneumothorax. *Schweiz. Med. Wchnschr,* **71**:1210-1212, October 18, 1941.
19. Hennell, H., and Steinberg, M. F.: Tense Pneumothorax. *Arch. Int. Med.* **63**:648-663, April, 1939.

835 Wainwright Building.

PENICILLIN IN CARDIOVASCULAR SYPHILIS*

RENO R. PORTER, M. D.
Attending Physician, Veterans Administration Hospital and Associate in Medicine,
Medical College of Virginia,
Richmond, Virginia.

Up until recently, the treatment of cardiovascular syphilis was well established. Uncomplicated aortitis was treated with a preliminary course of bismuth and iodides and then the cautious administration of arsenicals. Aortitis complicated by aneurysm or aortic insufficiency without congestive failure received the same treatment except that full doses of arsenicals were not used. Where coronary osteal stenosis or congestive failure were present, specific treatment consisted only of bismuth and iodides.

With the advent of penicillin, the possibility of its use in cardiovascular syphilis has been considered but so far the reports in the literature are meagre and have been conflicting. For example, Dolkart and Schweinlein[1], in a preliminary report in 1945, presented two cases of syphilitic aortitis with aortic insufficiency in which penicillin therapy had to be stopped because of untoward reactions. Russek, Cutler, Fromer, and Zohman[2], on the other hand, reported no serious reactions in 15 consecutive cases of syphilitic aortitis, including four with aneurysm, treated with penicillin.

TABLE I

Patient	Age	Sex	Race	Diagnosis	Preliminary Treatment	Penicillin Treatment	Reactions	Results (Symptomatic)
E. L.	54	M	C	Aortitis, Aortic insufficiency, Congestive failure,	KI and Bi for two weeks	40,000 units q. 3 h. x 60, repeated three weeks later	Iodide rash, increasing congestive failure two weeks after starting first course of penicillin which cleared rapidly on bed rest	Improved
M. M.	49	M	W	Aortitis, Aneurysm	12 injections of Bi	40,000 units q. 3 h. x 240	None	Improved
J. L.	53	M	C	Aortitis, Aneurysm	KI and Bi for four months	40,000 units q. 3 h. x 240	None	Died of hemorrhage following rupture two days after treatment stopped
T. W.	53	M	C	Aortitis, Aneurysm Aortic insufficiency, Congestive failure, Effort angina	KI and Bi for two months	50,000 units q. 3 h x 120	Increasing congestive failure two weeks after starting penicillin which cleared rapidly on bed rest	Improved
P. H.	53	M	C	Aortitis, Aneurysm	*5,000 units of penicillin q. 3 h. x 24	*50,000 units q. 3 h x 120	None	Improved
G. P.	56	M	C	Aortitis, Aortic insufficiency, Congestive failure	5,000 units of penicillin q. 3 h. x 24	50,000 units q. 3 h x 120	None	Improved

*According to the treatment schedule outlined in VA Technical Bulletin, dated January 7, 1947.

*Read by title at the annual Scientific Session of the American Heart Association, Atlantic City, N. J., June 6-7, 1947.

From the Medical Service, Veterans Administration Hospital, Richmond, Va.

Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

Because the role of penicillin in the treatment of cardiovascular syphilis is still far from determined, it seems worthwhile to report results in six of our recently treated cases, especially in view of their complicated nature and the fact that one came to autopsy.

Table I shows the pertinent data in each of the cases in this series. It will be noted that all of them had complications of aortitis, three of them having aneurysms and three of them having aortic insufficiency with congestive failure. In the cases with congestive failure, as good cardiac compensation as possible was attained with bed rest, digitalis, and diuretics before specific antiluetic therapy was instituted. Preliminary treatment consisted of variable quantities of KI and bismuth in the earlier cases and small doses of penicillin in the later cases treated. All received massive doses of penicillin—from 6,000,000 to 10,000,000 units.

There were no instances of immediate treatment reaction or therapeutic shock. The so-called therapeutic paradox occurred in two of the cases with aortic insufficiency and congestive failure. The congestive failure in both instances had been brought under control prior to treatment, but became considerably worse about two weeks following the institution of penicillin therapy. This increasing failure responded very satisfactorily to more vigorous treatment (rest and diuretics) and did not necessitate discontinuing the penicillin.

It is too soon to judge the therapeutic results in these cases since their clinical course must be observed over a long period of time. Five of the six cases stated that they were improved symptomatically following treatment. Those that had pain from aneurysms said that the pain was less. Those that were having symptoms of congestive failure noted that these were less severe, but, of course, they also had had the usual treatment for congestive failure.

The one death cannot be attributed to penicillin since it resulted from rupture of a large thoracic aneurysm into the left pleural cavity. This aneurysm was tremendous in size and presented through the posterior chest wall, so that its rupture was inevitable. Microscopic examination of the aorta in this case showed evidence of "beginning" healing; that is, the sections did not show as much perivascular cellular infiltration as is usually seen in active syphilitic aortitis.† This, of course, is merely a pathological impression and is not taken to indicate definite therapeutic response to penicillin. The most that can be said is that it is an encouraging finding.

SUMMARY

1. Massive doses of pencillin were given to six cases of cardiovascular syphilis without any instances of therapeutic shock or immediate treatment reaction and with symptomatic improvement in five cases.

2. The therapeutic paradox occurred in two cases which were complicated by aortic insufficiency and congestive failure. However, this responded to more energetic treatment for congestive failure, and did not require discontinuing penicillin.

3. In the one fatality (not attributable to penicillin) there was suggestive evidence of therapeutic response.

4. Penicillin appears to be without danger in the treatment of all types of cardiovascular syphilis, but a longer follow-up and a larger series will be required before final judgment can be reached regarding its therapeutic effectiveness.

REFERENCES

1. Dolkart, R. E., and Schweinlein, G. X.: The Treatment of Cardiovascular Syphilis with Penicillin. *J.A.M.A.*, **129**:515, 1945.
2. Russek, H. I., Cutler, J. C., Fromer, S. A., and Zohman, B. L.: Treatment of Cardiovascular Syphilis with Penicillin. *An. Int. Med.*, **25**:957, 1946.

†I am grateful to Dr. Sahyoun of the Pathology Department of the Medical College of Virginia who examined these sections with special staining techniques.

CO-EXISTENCE OF ORGANIC AND PSYCHOSOMATIC DISEASE —CASE REPORT.*

ELIZABETH M. COVER, M.D.,
Luray, Virginia.

The following case has been selected for report because it illustrates, for review, the considerations made for those patients in whom organic and psychosomatic disease co-exist.

The case is of a 68 years old white woman, first seen in February of 1947, at which time she presented herself for examination regarding a chronic leukorrhea which, with increasing frequency, showed blood tinging.

Relevant history included that of radium therapy for uterine bleeding fifteen years prior to the date of this examination. Following this treatment, an offensive vaginal discharge developed, which contained old blood. The patient consulted her physician, who advised her that such discharge was to be expected, and that it would subside in due course of time without treatment. It did. Within the year, however, the patient noticed that upon straining, as in lifting, she experienced sharp pain which was followed by the forceful expulsion of purulent discharge containing fresh blood. She noticed, also, that at such times a mass presented at the entroitus. She consulted her physician, who advised the use of cleansing and antiseptic douches. The patient did not return to her physician thereafter, but continued to use douches, and modified the original prescription according to her various sources of lay information.

The patient's general health became impaired. She developed transient and vague sensations of chest discomfort which progressed to assume the character of angina pectoris; there was severe, constricting precordial pain, with radiation into the left shoulder and arm, and these "attacks" were relieved by nitroglycerin administered sublingually. She was diagnosed as having angina pectoris, and placed on a program of restricted activity and avoidance of emotional strain.

For about thirteen years, the patient lived under the conviction, self-formulated, that she had cancer. She interpreted the vaginal discharge as indicating the presence of cancer, and she believed the mass she saw present at the entroitus when she examined herself, was a tumor mass. For about eight years she convinced herself she was without recourse to help, for she believed that her "heart condition" constituted insurmountable risk in anesthesia and surgery. Her life for these years was that of a resigned, fearful invalid.

Examination revealed no evidence of pathology other than that of the pelvis. There was relaxation of the perineum incident to a healed laceration sustained in childbirth. There was moderate cystocele and rectocele. There was second degree descensus. There was moderate vaginitis and cervicitis. What appeared to be but a thin film of tissue occluded the external os of the cervix, and this was bluish in color. The fundus was somewhat larger and softer than usual in a patient of this age group, but it was movable, and there were no adnexal masses or tenderness.

Diagnosis was made of cervical stenosis, with probable pyometra, and of vaginitis and cervicitis of chemical origin, superimposed by secondary invasion by pyogenic organisms.

The patient was advised to restrict her douching to the use of boiled tap water, and to observe gross cleanliness in the procedure. Under this program there was rapid improvement in the vaginitis and cervicitis, and under mild local chemotherapy there was further improvement.

It was with difficulty that the patient's consent for diagnostic curettage was obtained. Under open ether anesthesia, a small sound was introduced through the cervical os, with immediate release of purulent fluid. Cautious dilatation with a small Hegar, locked, released approximately an ounce of this material. Light strokes with a dull edged curette obtained sufficient material for examination. The pathologist's report of examination of this material was "Endometrial polypi, with extensive pyometrium. No evidence of malignancy, but suggest hysterectomy."

The patient's consent for surgery was given with reluctance and with the obvious attitude of resignation to the final eventuality. She was referred to a

*Read before the Northern Virginia Medical Society, December 9, 1947, at Woodstock.

surgeon who had access to associated services, so that investigation of her general condition might be made. This investigation revealed no pathology except that of the pelvis. Under spinal anesthesia, vaginal hysterectomy was performed, and the proper repairs made to restore the structures in support. The patient's course was uneventful. At present, she is engaged in full and normal activity.

SUMMARY

A case record has been presented to review the following considerations:

1. Cervical stenosis, and resulting pyometra, may result from radium therapy;
2. Pyometra, as any other localized, undrained infection, may constitute a source of general and systemic effect;
3. Fear of disease, and fear of knowledge of disease, may alienate a patient from proper medical care, and lead her to harmful, self-medication;
4. The psychogenic manifestations of fear and anxiety may simulate closely the signs and symptoms of orgainic disease;
5. Definitive treatment may eradicate not only the organic disease, but remove, also, the psychological hazard which, itself, is incompatible with good health.

Navy's New Medical Training Program.

The Surgeon General of the Navy has announced the expansion of the Bureau's professional training program for reserve and regular medical officers, which is similar to the recently expanded Army medical training program. The object is to permit more Navy doctors to meet the requirements for certification by the various American Specialty boards, and to encourage the young doctor to intern under the auspices of the Navy. The following are the important points in this program:

Graduates of Class A medical schools who have been accepted for internship by a hospital approved for such training by the Council on Medical Education and Hospitals of the A.M.A. may be commissioned as lieutenants (junior grade), MC, USNR, and permitted to continue their intern training. They will receive all the pay and allowance of the rank while so serving. After completing their internships, the medical officers must remain on active duty for a period of one year. If they meet the professional, physical and moral requirements, they will be given every encouragement to transfer to the regular Navy.

Interns who have completed the one year of obligated service, and who have transferred to the regular Navy, may be considered for residency training on a competitive basis with other officer personnel of the regular Medical Corps.

Resident physicians now in civilian hospitals, or those accepted for approved residency training, are eligible for commissions in the regular Navy. Those so commissioned will be assigned to duty, with full pay and allowances, in the hospital in which they are already a resident, or to which they have been accepted for residency training. Every attempt will be made to permit residents holding commissions in the regular Navy to complete their training in event of an emergency.

The Navy has at the present time 400 approved residencies and fellowships in the various specialties recognized by the American Specialty Boards in Naval and civilian hospitals.

Information concerning any part of the program may be obtained by writing to the Chief of the Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C.

COUNTRY DOCTOR, 1947*

N. H. WOODING, M.D.,
Halifax, Virginia.

When requested by Dr. Craddock to prepare a paper for this evening I suddenly felt as devoid of scientific material as the newborn infant is of clothing. The topic I selected is not new to our current President, for the only thing that keeps him from being further out in the country than I am is that he lives nearer to Lynchburg. I shall endeavor to portray some of the features of the economic side of medical practice as have been experienced during the past fifteen months, to illustrate the type of practice encountered in the rural portions of Halifax County—painlessly sutured together with medical folklore and superstitution as exists down there.

Halifax County, with an area of 841 square miles, had in 1940 a population of 41,260. There are in this County 13 white and one Negro physicians. Two physicians live at the County Seat, seven in South Boston, five miles away; one is at Turbeville, one at Virgilina two are at Clover and one is at Volens. Of the seven doctors in South Boston, one is an internist, five are general surgeons and only one does not work outside his office and the hospital. Thus we see that Halifax County is rather well supplied with doctors; this means there is scarcely any community which can be considered the territory of any particular doctor and it is doubtful that any one of us can be considered a "family doctor" in respect to any given family. I was told that a short time ago three members of a family were in the South Boston Hospital under the care of three different doctors. Families will change doctors in an illness, frequently without advising the first attendant, and will go to Danville or Lynchburg to see specialists without the regular physician knowing what is happening. This practice, I can't say is a pernicious one, for is it not what we so warmly defend as the "freedom of choice of a physician," which makes it necessary to apply with vigor the therapeutic measures that seem most indicated.

On Saturday afternoon, July 20, 1946, I arrived in Halifax from the Ft. George Meade Separation Center. Seventy-two hours later in a Negro tenement I was sweating over a 14 year old colored primipara. My rehabilitation had been short and abrupt. Allowing ten weeks taken for postgraduate work this spring, I have been in practice 13 months. In this time I have made index cards on 1480 individual patients or family units. Two hundred and sixty of these live within the town of Halifax, 882 come from the surrounding country within ten miles, 226 live at a distance greater than ten miles, and 112 live more than 16 miles away. To the first of November of this year I had made 1092 house calls and had seen 2352 patients at my office. Gross receipts have amounted to $8,963.51 with net income being $4,515.63. My speedometer now reads over 26,000 miles with the present increment being about 250 miles a week.

From the data given in the preceding paragraph it will be noted that about one-third of the work consisted of house calls, with over 20% of the patients living more than ten miles away. Of the 1220 families living outside the corporate limits of Halifax, at least 50% live back from the all-weather roads. These farm outlets vary in length from one-quarter to three miles and in some cases are little better than gullies. During some three months of the year there are many homes that can be reached only on foot.

I might say here that the sicker the patient is, the less insistent is the messenger that you come right away. If the message is that you must come right away and if you are not told that the patient has had an accident, you must not be surprised to see that he or she has been sick for days and may be comfortably resting in bed awaiting your arrival. Almost anything may be encountered in these house calls: maternity cases, insulin shock, heart disease in its various forms, upper respiratory infections, abortions—threatening, complete and incomplete,—arteriovenous aneurysms of the neck, severe hemorrhage from extracted teeth, traumatic effusion of the knee joint, fractures, appendicitis, incarcerated hernia, toxemia of pregnancy with convulsions, abruptio placenta, acute psychotic episodes and nervousness in all its protean forms.

The country doctor is still per necessity an obstetrician. He may seldom see a recent number of *Sur-*

*Read at the meeting of the South Piedmont Medical Society in Lynchburg, November 12, 1947.

gery, Gynecology and Obstetrics, but he sees wet, wriggling new born babies, in cabins and by lamp light. Of 52 deliveries, 49 were in the patients' homes. There were 14 white women, all delivered at home, and 38 colored, three of whom were hospitalized. Of this series, 20 babies were born during the day and 32 at night. This would seem to bear out the observation that more babies are born at night than in the day. Despite two Maternal Welfare Clinics operating in Halifax County and the growing recognition of the public for the need of prenatal care, a good portion of these patients had had no prenatal care at all. This is particularly true among unmarried colored women and of the poor whites. I use no inhalation anesthesia but give demerol to some patients. The patients are encouraged to work with their pains and the results have been encouraging. No operative obstetrics has been undertaken. If progress is not satisfactory, the woman is placed on the back seat of my car and taken to the hospital.

The plan down in Halifax County is to expect anything and to try to be prepared for it. A check of my bag this morning revealed 29 different tablets and capsules, eleven bottles of solutions, including 50% glucose, adrenalin and procaine. There were fifteen ampules, including synkamin, digifolin and aminophyllin. Lilly's speciality group of ophthalmic ointments, penicillin, cough syrup, diarrhea mixture and sedative for alcoholics complete the bag. In the car are carried intravenous fluids and Red Cross plasma. Dispensing medicine is not a particularly desirable practice, but, unless it is done, hours will need elapse in many cases before the patient can get any medicine.

The problems of the country doctor of today are probably easier than ever before; yet time, distance and roads still hamper us. At Halifax Court House two doctors live where once there were three, and in the western part of the County where there were once three doctors there are none at all. This means that those of us who do country work must drive further and more often. In good weather it is not too difficult to attend two labor cases sixteen miles apart the same night but when the snow comes someone will have to wait if this happens very often.

Let us conclude this paper with some of the facts and fancies which exist among the people in regard to therapeutics and the cause of diseases. "Acid" is the big bad wolf of the layman. People have too much of it and it causes all manner of evil, but clinical investigation doesn't reveal the offending acid. Indigestion is complained of as "ulcerated stomach", regardless of the absence of any ulcer history. There seems to be a considerable degree of emotional tension among the general population, perhaps more so among the country people. It is making me wonder if our men in Service did not bring with them into the Army a large part of the emotional illnesses for which we treated them. As to therapeutics, the realm of magic is frequently entered. A woman in labor who experiences cramps in her legs has white strings tied around the knees and ankles. Headache is treated by applying green leaves to the brow, and children wear around their necks various amulets designed to aid teething or to keep away disease. Baby boys are allowed to have long hair because they will not learn to talk if their hair is cut. It is bad luck to have more than one lamp in a room.

I have briefly touched on some of the aspects of a country doctor's life in Halifax County in the present day. We don't have snake handlers nor do our people refuse medical care for their children because of their religious beliefs. Emergency cases can be put in the hospitals, even if it means that the doctor must make the trip himself at 3 A. M.. Making night calls gives you a chance to listen to your radio. There is always some wild life to observe. Opossums frequently scurry across your way at night and you are always looking for the deer you expect to see. The above account, ladies and gentlemen, represents my initiation into rural general practice of medicine.

FOREIGN BODY—OPEN SAFETY PIN—IN ESOPHAGUS OF INFANT—REPORT OF UNUSUAL CASE

PORTER P. VINSON, M.D.,
Richmond, Virginia.

Although foreign bodies are frequently encountered in the esophagus and air passages of children they are seldom observed in infants less than nine months of age. The younger the infant the less the likelihood of ingestion or aspiration of a foreign body into the esophagus or respiratory tract. The following case is reported because of the age of the infant and the unusual circumstances associated with the ingestion of the foreign body.

A white infant seven weeks of age was being dressed by his mother when a small open safety pin flipped out of her fingers and dropped into the infant's mouth. The baby choked and coughed and then appeared quite comfortable. Roentgenoscopic examination an hour later revealed an open safety pin in the upper portion of the esophagus (Fig. 1).

Esophagoscopy was done without anesthesia and the foreign body was removed.

*Professor of Bronchoscopy, Esophagoscopy, and Gastroscopy, Medical College of Virginia.

Open safety pin in esophagus of child seven weeks old

Doctors Report Speedy Test for Sickle-Cell Anemia.

A rapid test to demonstrate the sickling process in blood, whereby the red corpuscles acquire a sickled, or crescent-like shape, is reported by Karl Singer, M.D. and Sidney Robin, M.D., in the April 17 issue of *The Journal of the American Medical Association.*

The two doctors are from the Department of Hematologic Research and the Kunstadter Laboratory for Pediatric Research, Michael Reese Hospital, Chicago.

Sickle cell anemia, which results from the sickling phenomenon, is, in the words of the authors, "a great masquerader", manifesting itself in several different ways. Often, according to the article, sickle cell anemia may be confused with perforated ulcers, rheumatic fever, tuberculosis, or skin and nerve diseases. The disease is confined principally to Negroes and the tendency to it is hereditary.

Because of these diagnostic pitfalls, the authors state that "the need for routine examinations for the sickling phenomenon has been emphasized repeatedly", and "particularly in the dramatic surgical conditions a rapid test is urgently needed."

The present methods of examining the sickling process are inadequate, according to the authors, because "they do not provide the required information with sufficient rapidity and reliability."

In the rapid test devised by Drs. Robin and Singer, a drop of the suspected blood is mixed with a drop of cloudy broth culture of non-disease-breeding bacteria and then sealed. Thus, according to the article, "the living organisms consume oxygen rapidly and also give off carbon dioxide, . . . creating the most favorable conditions for the detection of sickling tendencies."

"The mechanism on which the test is based is the rapid reduction of the hemoglobin contained in the corpuscles, which is a necessary requirement for the sickling phenomenon."

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for May 1948, as compared with the same month in 1947, and for the period of January through May 1948, compared with the same period in 1947, is as follows:

	May 1948	May 1947	Jan.-May 1948	Jan.-May 1947
Typhoid and Paratyphoid	12	9	57	31
Diarrhea and Dysentery	204	448	1,392	1,811
Measles	1,480	1,294	4,195	6,074
Scarlet Fever	77	102	508	760
Diphtheria	16	17	99	125
Poliomyelitis	3	2	10	14
Meningitis	9	8	45	54
Undulant Fever	10	9	39	25
Rocky Mountain Spotted Fever	5	6	5	7
Tularemia	4	2	24	28

The Rabies Problem in Virginia*

It is my privilege to present a subject which properly should be of grave concern to all public health personnel, to private physicians and to laymen. The biting dog or other animal not only presents potentialities of human rabies, with its 100% fatality, but possibilities of tetanus, of gas gangrene, of salmonella and many other serious infections, exist. Added to this picture we have the factors of human suffering both physical and mental, of disfiguring scars, and of economic loss in time and money expended in essential medical care, in public health control efforts and in wage earning and other capacities. Of great importance also is the State and National loss of valued and valuable domestic, wild and pet animal life.

While at the moment the problem of animal rabies may be of little significance in many Virginia areas, the situation tomorrow may be entirely reversed. The informed and experienced public health administrators will recognize the emergency nature of a situation in which one rabid animal is found, and will take all possible precautions to prevent dissemination. We, in Virginia, must be seriously concerned with an accelerating prevalence which has, by laboratory report alone, increased from 108 positive animal heads in 1946, to 162 in 1947, and to 79 during the first five months of 1948. Of these, 214 or 57% of the two year five month total were reported from seven counties in South-Central and South-West Virginia Counties. The alarming feature of this picture lies also in the increasing spread of animal rabies to adjacent and even distant areas. It must be conceded that existing measures of control have been comparatively ineffective although considerable commendation is due the health officers and their personnel for genuine efforts expended.

At this point we may well ask the questions; why are our control measures inadequate and what must be done to provide effective rabies control? Adequate replies to these queries are not simple and many features of control programs are of controversial nature. It must be remembered, however, that certain of the United States and various nations have adequately demonstrated that rabies may be almost totally eliminated. Largely throughout this nation and Canada the situation is authoritatively described as "chaotic". Interlocality, interstate, and international programs must be intelligently constructed and continuously operated before we may expect sustained relief for all involved. In the meantime, the following points may be presented with the assurance of official recognition providing means of practical state and local control:

REASONS FOR PROGRAM FAILURE

1. National, State and local legislative inadequacies in quality and enforcement.
2. Neglect of professional and public education.
3. Divided authority and responsibility.
4. Controversial opinions as to the adequate program.
5. Lack of income to provide for program personnel and facilities.

THE PROPOSED PROGRAM

The development of an authoritative practical program by National agencies which may include the following, subsequent to intensive public education:

1. Legislation sufficient to prevent importation of infected dogs and other animals.
2. Provision for budgetary needs to operate

*Presented to the Annual Conference of Public Health Workers, Friday, June 11, 1948, by Dr. W. A. Browne, Director Communicable Disease Control, of the Virginia State Department of Health.

the proposed program.

3. Recognition that facilities must be provided for the collection and disposal of stray dogs.
4. Placing responsibilities of control in one agency, preferably the health department.
5. Provision for enforced licensing and approved annual vaccination of all dogs.
6. Appointment of animal wardens.
7. Construction and operation of approved dog pounds.
8. Adequate facilities for treatment of human and animal bites.
9. Required reporting of human and animal rabies and of all animal bites and injuries.
10. The appointment of a rabies advisory committee of 5 to 9 members representative of various community organizations. This group should be of material assistance in the development and operation of a balanced control program.

Bibliotheca Obstetrica.

VÖLTER, CHRISTOPHER: Neu eröroffnete Heb-Ammen-Schuhl, oder nutzliche Unterweisung Christlicher Heb-Amman und Wehe-Müttern, wie solche sich vor, in, und nach Geburt bey Schwangern und Gebährenden, auch sonst gebräuchlichen Frauen zu verhalten haben. Sampt beygesetztem Unterricht, wie todte Kinder, die in Mutterleibabgestanden, ohne Gefahr ausszuziehen. Und mit vielen dienlichen Observationibus auss gewisser und wigentlicher Erfahrung erleutert und auffgezeichnet, auff vielfältiges Christlicher Matronen inständiges Begehren endlich in den Truck verfertiget, Mit nutzlichen Kupffern geziehret. Durch Christoph Völltern von Metzingen unter Urach, anjetzo Hochf.Duchl. zu Würt. Leib-Chirurgum. Worbey ein Unterricht von denen immunitaeten und Privilegien, der Hebammen in des Hertzogthumb Württenberg, night weniger, wessen sich diesselbe bey der Noth-oder Gah-Tauff zuverhalten haben. Mit Fürstl. Gnädigster Bewilligung angehencket worden. Stuttgart; In Verlegung Johann Cottfriedt Zubrodt. Gedruckt bey Paulus Trew, Anno 1679. 14 l., 328 p. 19 l., 172 p. 3 l., 13 plates. Page 206 is misnumbered 208. 16.6 cm
——: Neueröffnete hebammen schul . . . J. G. Zubrovs, 1687. 448 p. 16.5 cm. (Miller Library)

Völter was surgeon to the Duke Eberhard Ludwig of Würtemberg. After serving as military surgeon he settled down to practice in his native city of Metzingen and in Stuttgart. Evidently he had considerable experience in obstetrics. His text book is interesting in that it gives a good insight into the state of midwifery in the 17th century, but it is better known today for its illustrations. There are several cuts of the birth stool that had been used for a hundred years in Swabia. One plate depicts a man-midwife conducting a delivery and another shows a Cesarean section. The latter is mentioned by most medical historians as evidence that laparotomies were performed in the 17th century.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

District Conferences

Since our last reference in the MONTHLY to conferences for members of the District Council, three more have been held, making a total of seven of these in their respective Congressional Districts. These conferences took place at the Richmond Hotel, Richmond, May 17, for the Third District; at the Ingleside Hotel, Staunton, May 19, for the Seventh District; and at the Hotel Petersburg, Petersburg, May 26, for the Fourth District.

Presiding at these meetings were the Councilors for the Districts: Dr. Guy W. Horsley at Richmond, Dr. Richard P. Bell, Jr., at Staunton, and Dr. James L. Hamner at Petersburg.

Speakers on these programs were:

R. B. Almack, Director, Division of Hospital Survey and Construction, State Department of Health, "The Hospital Construction Program in Virginia".

William Shands Meacham, Director, Virginia Council on Health and Medical Care, "The Virginia Council on Health and Medical Care".

M. Haskins Coleman, Jr., Executive Director, Virginia Hospital Service, "Voluntary Prepayment Medical Care and Hospitalization Plans in Virginia".

Dr. Joseph S. Lawrence, Director of the American Medical Association's Washington Office, "The Washington Listening Post".

Henry S. Johnson, "Our Suggested Program of Public Relations and Some Suggestions for Members of the Council, District Council and Local Medical Societies, as Well as Our Office of Public Relations, in Implementing This Program".

Dr. John T. T. Hundley, Lynchburg, gave a paper at Staunton on "A Reference to the Need of Medical Public Relations", which drew some most favorable comments.

Local arrangements for these conferences were made by the host member of the District Council: Dr. Benjamin W. Rawles, Jr., Richmond; Dr. S. H. Garst, Staunton; and Dr. Herbert C. Jones, Petersburg.

After dinner guest speakers were Dr. Harry J. Warthen, Jr., President-Elect of the Richmond Academy of Medicine, at the Richmond conference, and Dr. Guy R. Fisher, President of the Medical Society of Virginia, at Staunton and Petersburg.

Others participating in the conferences included A. Fred Noyes, Assistant Director of Virginia Hospital Service, at Richmond and Staunton; Dr. Vincent W. Archer, Charlottesville, Councilor for the Eighth District; Dr. George A. Torrence, Hot Springs; Dr. Ned Waddell, Lexington; Dr. N. M. Canter, Harrisonburg; Dr. H. W. Miller, Woodstock; Dr. John H. Guss, Staunton; and Dr. M. B. Jarman, Hot Springs, at the Staunton conference; Dr. W. J. Ozlin, South Hill; Dr. W. S. Lloyd, Goochland; Dr. Ray A. Moore, Farmville; Dr. Ray A. Moore, Jr., Richmond; Dr. Fletcher J. Wright, Petersburg; Dr. William S. Sloan, Petersburg; Dr. A. T. Finch, Chase City; and Dr. Clyde L. Saylor, Hopewell, at the meeting in Petersburg.

These conferences were an outgrowth and follow-up of the State-wide Public Relations Conference held at Richmond last December. Their purpose was to discuss activities of members of the District Council with their respective Medical Societies and counties in an effort to further our public relations program on a local level.

Although a formal pattern for these group conferences was followed in the main, the informal discussions which were provided covered a number of other items pertinent to health and medical care.

Kit of Materials

A Kit of Materials has now been sent to each member of the District Council in all nine Congressional Districts.

These Kits are designed as one important instrument in the public relations program and contain selected excerpts, articles, pamphlets, statistics, etc., on numerous health and medical care problems, indexed according to the following categories:

A. Medical Public Relations.
B. Rural Health.
C. Health Councils.
D. Government-Controlled Medicine.
E. Voluntary Prepayment Medical Care and Hospitalization Plans.
F. Chiropractics and Naturopathy.
G. Publications in Reference to Work of Other State Medical Societies.

It is hoped that the 40 items in the Kit at present will prove valuable and also serve as one source of reference material for members of the District Council and others speaking before lay and professional groups.

It is contemplated that supplements will be added to this Kit as other pertinent items are prepared. Suggestions for improving this are solicited.

Work With the Press

Approximately 30 newspapers are expected to publish "Test Your Medical IQ" beginning Thursday, June 17, thus inaugurating this year's program of regular press features.

A short time thereafter, it is anticipated that "Health Talks" and "It's Your Health", two other columns on health and medical care subjects, will be made available.

Following a second letter to editors in the State and to members of the District Council, a fine response was received. Much of the credit for this is no doubt due to the efforts of doctors who contacted local newspaper officials and interpreted the Society's press program to them.

At present, 46 papers have indicated that they will

participate in the program, with negative replies coming from only five. Many of these weeklies and afternoon dailies plan to use two or three of the features. Thirty requests have been received for "Test Your Medical IQ", 26 for "It's Your Health", and 24 for "Health Talks".

Other papers may be added to the list once the program is underway, and a list of those participating will probably be published at a later date.

Radio Programs

Monday, July 5, is the opening date for "Tell Me Doctor", the Society's radio series which seemed to have been well received last year.

As of this writing, four stations are scheduled to broadcast these programs Monday through Friday for a 24-week period, ending December 17.

The stations and program times are as follows:

WOPI-FM, Bristol, 1:10-1:15 p.m.

WBTM, Danville, 11:30-11:35 a.m.

WLVA, Lynchburg, 1:15-1:20 p.m.

WINC, Winchester, 4:30-4:35 p.m., Monday, Tuesday, Thursday, Friday; 1:55-2:00 p.m., Wednesday.

It is hoped that other stations will soon be added so that a more complete coverage of the State would be made.

Contacts by officials and individual members of the Medical Society with radio officials in regard to programs already arranged or those that might be scheduled could prove valuable. A word of recognition or expression of thanks to those stations giving time on the air would probably be appreciated.

Local Societies might also devise means of calling the attention of the public to "Tell Me Doctor". It is contemplated that press releases on the subject will be made available to newspapers, and perhaps something similar to the waiting room cards used last year will be arranged.

BOOK ANNOUNCEMENTS

Congenital Malformations of the Heart. By HELEN B. TAUSSIG, M.D., Associate Professor of Pediatrics, Johns Hopkins University School of Medicine, and Director of the Children's Cardiac Clinic at the Harriet Lane Home of the Johns Hopkins Hospital. New York, The Commonwealth Fund, 1947. xxxvi-618 pages. Illustrated. Cloth. Price $10.00.

Those physicians, especially the pediatrician, who have been waiting for the publication of Dr. Taussig's book, "Congenital Malformations Of the Heart", can rejoice that it is now available.

After one has read through its pages he cannot but be impressed with the masterful way Dr. Taussig has presented her subject. The monograph is very readable due to her clear concise way in approaching the subject.

Upon presenting her subject on congenital malformations of the heart the various defects are taken in order. With each defect an explanation is presented as to the nature of the malformation, explaining its development from the embryological stage to the present condition.

To clarify the text, illustrations are profusely used. Colored plates, comprising drawings of the pulmonary and arterial circulation of the body in relation to the various cardiac defects, superbly illustrates the case in discussion.

One is impressed upon reading the text of the meticulous care the author has taken in presenting a diagnosis. From the facts presented by the history of the case along with her observations obtained from the use of x-ray and fluoroscope she presents evidence for diagnosis so simplified that one is convinced that the diagnosis of congenital hearts is within his reach should he have access to the various facilities used for diagnosis.

The book is profusely illustrated with pictures of roentgenograms of the heart and autopsy material to better clarify her approach to the diagnosis. Case histories are also used.

There is a certain amount of repetition throughout the book which in the final analysis makes the subject matter clearer and more readily understandable.

Dr. Taussig impresses one that he should be able to know how to recognize those cases of congenital heart disease which are amenable to operation so that the patient will receive whatever relief that is due them.

After reading through the pages one definitely comes to the conclusion that the subject matter is masterfully presented by one who knows her subject through the experience of studying thoroughly a large number of cases.

"Congenital Malformations of the Heart" is a monograph that should be accessible to every physician who will come in contact with patients suffering from congenital heart disease.

L.E.S.

EDITORIALS

Interneships.

EVERY year in June the newspapers carry lists, columns long, of new doctors and their hospital appointments. These hospitals literally cover the face of the globe, or at least of North America. One wonders why many of these localities were chosen and if some of the choices were not unwise. The choice of an interneship may easily decide the whole professional career of the young doctor.

There are two classes of medical graduates, those who know just what they want to do and those who are quite undecided. If the young doctor plans to practice medicine, it would be good business judgment to choose a hospital in which to serve his interneship that is located in the neighborhood in which he intends to work. In that way he will be making friends before he starts to make a living. If it is not possible to secure an interneship in a hospital that draws its patronage from the region of his choice, the next best thing to do is to interne in a hospital that is well known in that region. If the young doctor plans to teach or if he is one of those *rarae aves*, who has a gift for research, patronage does not enter into the picture. He should choose the hospital that offers the most in his chosen field.

It is in connection with the second category of medical students that the interne committees of our medical schools are missing a golden opportunity to correct one of the most wide spread and serious failings of our present system, i.e., the uneven distribution of medical care. That there is a very uneven distribution of doctors, every one admits. There seems to be an uncontrollable tendency for the young doctor to locate in the great cities where in times of depression he may have to drive a taxicab in order to make a living, while at the same time small communities are clamoring for his services. It is like the uneven distribution of sunshine and rain—everyone talks about it, but no one does any thing about it. Many community hospitals (and when the Hill-Burton bill gets into operation their numbers will greatly increase) have trouble getting internes. If the interne committees would advise the medical graduate to accept these interneships there would be more general practitioners and a better distribution of doctors.

An interneship today is considered a part of the formal training of a doctor, and today there are more such positions than there are persons to fill them. But this has not always been so. In 1903 the 19th man in the graduating class of Johns Hopkins was unable to get an interneship. There was a time still more remote, when a course of study in a medical college was not considered essential. Most of the doctors in Colonial America were doctors only by virtue of their calling, and their only training was an apprenticeship to some established doctor. Some of these instructors, such as Adam Kuhn of Philadelphia and Alexander Humphries of Staunton became famous because of their pupils. The next step in the development of medical education was an apprenticeship, plus a course in a medical school. The young aspirant "read medicine" before taking the two six weeks courses leading to an M.D. degree. When the instruction in the medical colleges became more adequate, the apprenticeship was thought to be unnecessary. This was the low ebb of American medical education. The young graduate had to get his clinical experience as best he could. Now the apprenticeship has been revived in the form of interneships and has been put at the end of the formal medical course. Instead of being an apprentice to one doctor the interne is an apprentice to a group of doctors who constitute the staff of the hospital. The essence of apprenticeship or interneship is practical instruction. One can learn what

to do for patients in the class room, in the laboratories and as a student in the ward, perhaps, but how to get along with patients and manage them in their illnesses can be learned only by responsibility for their care. To gain this without supervision is dangerous and unfair to the public—hence the interneship of today and the apprenticeship of yesterday.

If space permitted we would like to pursue this question further. What internes mean to the hospital, with their fresh stimulating views from the medical school, deserves consideration. Besides a certain amount of service, they bring a stimulus of fresh ideas. Then too the relationship of the interne, the general practitioner and the specialist is a live question. At least one teaching hospital reserves its rotating interneships for the medical graduates who plan to go into general practice. The resident and assistant resident positions go to their graduates who have been in practice for several years. Sir William Osler used to say that the best foundation for a specialist was five years of general practice. Some such plan would make it possible for the would-be specialist to gain such a foundation.

The Medical Library Association.

THE 50th anniversary meeting of the Medical Library Association was held, fittingly enough, in Philadelphia and its opening session was in the College of Physicians, where on October 5th, 1899, Dr. George M. Gould presided at its first annual meeting and Dr. Osler made an address. From the very first the chief purpose of the Association has been to make medical literature available to the widest possible circle. In the very beginning an exchange was started and this has grown to such an extent that a full time manager is employed to see that duplicates of one library member go to the library that most needs the material. For forty-nine years this has been a potent factor in building up medical libraries all over the country. The list of presidents of the Medical Library Association is an impressive one, including as it does the names of George M. Gould, William Osler, James Read Chadwick, Abraham Jacobi, George Dock, John Musser, Francis R. Packard, Fielding R. Garrison, Lewellys Barker, Frederick M. Tice, John Ruhrah, Archibald Malloch and Walter Steiner. Since 1933 the position has wisely been limited to professional librarians, and the office of Honorary Vice-president was created for supporting members.

The remainder of the sessions were held in the various medical and dental schools of Philadelphia, University of Pennsylvania, Temple University, Jefferson Medical College, and the Woman's Medical College. We were addressed by the deans of the various schools and in this way we learned much of the medical history of Philadelphia. The Woman's Medical College of Pennsylvania is the oldest woman's medical college in the world, and it is the only one in North America that is still operating. We were told that the Woman's medical school in London now admits 15 per cent male students and that the one in Bengal also admits mere males. Not so with the Philadelphia school, it is 100 per cent simon pure female, unless busts of Hippocrates and Pasteur in the auditorium constitute demerits. Curiously enough the only 100 per cent male medical college, the Jefferson, is also located in Philadelphia.

Dr. O. H. Perry Pepper, of the University of Pennsylvania, made a delightful address at the banquet on "Verbum sap. sat." discussing in a light post-prandial vein some good and bad medical terms and ending up with advice to the librarians as to how to build an exhibit around a word. He chose as an example the word carotid. He would have the dictionary open so as to show the definition (Gk. *Karotides,* stupor, thought to be caused by compression of these arteries.) Next would be the book in

which is described the ancient experiment of putting goats to sleep by compressing the carotid arteries. Then he would have John Bell's book in which he ridiculed the idea. A more recent investigator has shown that in the goat the entire circulation to the brain comes through the carotids, so the ancient was right. He would show this work. This last investigation was supported by the Grocer's Guild and this should be brought out in the exhibit with possibly the coat of arms of the Guild.

Except at the banquet the medical librarians take their work seriously. In the three day convention they discussed, and we use the word advisedly, cooperation with the American Library Association Task Analysis Study, "Certification", training and recruitment program, scholarships and training for foreign libraries, the problem of exchange material, international exchange, American Book Center and its proposed successor, national library associations activities, international educational reconstruction, microcards, medical library methods, inter-library loans, hospital library service, union list of serials, coordinated abstracting service for clinical medicine, the Unesco Conference on Abstracting of Medical Literature, and Biological Abstracts, beside such routine reports as auditing, secretary's reports, etc. We know of no group that is more efficient, or more willing. It has been our good fortune to visit many medical libraries in various parts of the country and without exception the resources of the library have been placed at our disposal, and we have always received helpful suggestions about the matter in which we were interested. Our hat's off to the medical librarians!

SOCIETIES

Orange County Medical Society.

The doctors of Orange County met in May and reorganized their Society which has been inactive since several doctors entered the Service and two died. Dr. C. Cameron Kress, U. S. Navy retired, now health officer of Orange County, was elected president. Others serving with him are: Dr. J. Dave Middlemas of Orange as vice-president; and Dr. J. C. Bruce of Gordonsville as secretary-treasurer. Meetings are to be held monthly.

Bedford County Medical Society.

At a recent meeting this Society elected its delegate and alternate to the State Society meeting to be held in October, and decided to hold meetings every three months instead of monthly as heretofore. Officers for the current year are: Dr. E. L. Johnson, president; Dr. C. R. Titus, vice-president; and Dr. William V. Rucker, secretary. All are of Bedford.

Princess Anne County Medical Society.

Newly elected officers of this Society are Dr. Ira L. Hancock of Creeds as president, and Dr. Kathryn D. Hill of Virginia Beach as secretary. At its last meeting, the Society elected its delegate and alternate to the meeting of the State Society to be held in October.

Norfolk County Medical Society.

At the meeting of this Society on June 7th, the following officers were installed: President, Dr. H. W. Rogers; president-elect, Dr. Frank P. Smart; vice-president, Dr. B. L. Parrish; secretary, Dr. Walter P. Adams; and treasurer, Dr. J. Franklin Waddill. Delegates and alternates to the State Society meeting were also named.

The Nansemond County Medical Society,

At its meeting on June 4, elected delegate and alternate to the State meeting to be held in Richmond in October. Dr. J. M. Habel, Jr., was re-elected president, and Dr. W. H. Chapman was re-elected secretary-treasurer. Both are of Suffolk. Several new members have been admitted to the Society recently.

The Tazewell County Medical Society

Held a business meeting on May 10th. One of the matters for discussion was that a medical auxiliary be encouraged and it is hoped such a group of the wives of the members will be formed. Delegate and alternate to the Richmond meeting of the State Society were also named.

Dr. H. A. Porter, Boissevain, is president and Dr. W. R. Strader, Richlands, secretary-treasurer

Arlington County Medical Society.

At the meeting of this Society on May 20th at the Washington Golf and Country Club, Dr. Harry M. Robinson, Jr., Assistant Professor of Dermatology of the University of Maryland, School of Medicine, spoke on "Diagnostic Procedures Useful in Skin Diseases."

LEO SOLET
Secretary

The Medical Society of the Valley of Virginia

Held its regular spring meeting in Clifton Forge on May 27th under the presidency of Dr. John H. Guss, Staunton. Dr. John Hortenstine, Winchester, gave a review of The Functions of the Liver, and Dr. Martin Dreyfuss, Clifton Forge, spoke on The Role of the Liver in Blood Coagulation. The guest speaker was Dr. Franklin M. Hanger of Columbia University, New York, who spoke on The Differential Diagnosis of Jaundice with special reference to laboratory tests and their value in the diagnosis of liver disease. Recess was then taken for lunch, following which a brief business session was held at which several members were admitted into the Society. Dr. Carrington Harrison, Winchester, then presented a case report on Chronic Pancreatitis with Jaundice, and Dr. Alex. F. Robertson, Jr., Staunton, read a paper on Newer Concepts of the Etiology and Treatment of Portal Cirrhosis.

The next meeting of this Society will be held at the Woodrow Wilson Rehabilitation Center at Fishersville the last Thursday in September.

Dr. Richard P. Bell, Jr., Staunton, is secretary of this Society.

NEWS

Commencement Time Again.

MEDICAL COLLEGE OF VIRGINIA

Commencement exercises for the Medical College of Virginia began on the evening of June the 5th, with a dance at Hotel Richmond. The baccalaureate sermon was given the following evening by Dr. A. L. Currie at the Second Presbyterian Church, and alumni functions held the interest on Monday, culminating in a banquet at the John Marshall Hotel that evening. A medical assembly, emphasizing diagnosis, was held on the morning of the 8th, followed by the annual get-together luncheon.

Honorable Millard F. Caldwell, Governor of Florida, delivered the commencement address on Tuesday evening and this was followed by the presentation of honors and diplomas and the announcement of hospital appointments, gifts, etc. The honorary degree of Doctor of Letters was conferred upon Dr. Edward Jerald Van Liere, dean of the School of Medicine of the West Virginia University.

The 238 graduates from the several departments of the College represented sixteen states, District of Columbia, and forty-two of the hundred counties in Virginia.

Names of graduates in medicine with hospital appointments follow:

MEDICAL COLLEGE OF VIRGINIA HOSPITAL, Richmond—Drs. Dan Norman Anderson, Rustburg; Joseph McDonald Damron, Huntington, W. Va.; Roy Alvin Edwards, Jr., Huntington, W. Va.; William Hugh Grey, Charlotte, N. C.; Richard Horace Kirkland, Richmond; Nancy Pendleton Law, Princeton, W. Va.; William McConnell Law, Roanoke; Natalie Inge Lum, Petersburg; John Andrew Moore, Hampden-Sydney; Charles Council Parker, Woodland, N. C.; William Henry Pate, Goldsboro, N. C.; John Leake Pitts, Jr., Roanoke; Henry Page Royster, Oxford, N. C.; David Hamilton Smith, Arlington; Ann Hardy Williams, Blackstone; Charles Lee Williams, Richmond.

JOHNSTON-WILLIS HOSPITAL, Richmond — Drs. James Belt Adams, Halifax; Guy Joseph Barrow, Elkins, W. Va.; Avis Katherine Branch, Emporia; Ernest Tinsley Cobb, Ronceverte, W. Va.; Charles Daniel Jordan, Greenville, N. C.; John Jackson Kelly, III, Big Stone Gap.

STUART CIRCLE HOSPITAL, Richmond—Drs. Samuel Benjamin Judy, Parkersburg, W. Va.; Ewing William McPherson, Stonega; Thomas Archer Saunders, South Hill.

DEPAUL HOSPITAL, Norfolk—Dr. Robert Dea Ailsworth, Jr., Deltaville.

NORFOLK GENERAL HOSPITAL, Norfolk—Dr. William Irvin Knight, Jr., Richmond.

ROANOKE CITY HOSPITAL, Roanoke—Dr. Alvin

Penrose Long, Jr., Richmond.

WHEELING GENERAL HOSPITAL, Wheeling, W. Va.—Dr. Regina Margaret Barberia, Morgantown, W. Va.

OHIO VALLEY GENERAL HOSPITAL, Wheeling, W. Va.—Drs. Robert Greco, Morgantown, W. Va.; Leonard Preston Hudnall, Pratt, W. Va.; William Eugene Kincaid, Parkersburg, W. Va.; Michael Judson Moore, Killarney, W. Va.; Robert Earl Richard, Morgantown, W. Va.

CHARLESTON GENERAL HOSPITAL, Charleston, W. Va.— Dr. Elbert Lowell Berry, St. Albans, W. Va.

ST. ELIZABETH'S HOSPITAL, Washington, D. C.—Dr. Elizabeth Rowe Caro, Richmond.

DOCTOR'S HOSPITAL, Washington, D. C.—Dr. Thomas Brock Hardman, Morgantown, W. Va.

GALLINGER MUNICIPAL HOSPITAL, Washington, D. C.—Drs. Edgar Lee Marston, Silver Spring, Md.; Robert Clark Wingfield, Elkins, W. Va.

CITY HOSPITAL, Winston-Salem, N. C.—Dr. Rufus Solomon Gardner, Jr., Hillsville.

ROPER HOSPITAL, Charleston, S. C.—Dr. Henry Armistead Bullock, Jr., Richmond.

STATE OF WISCONSIN GENERAL HOSPITAL, Madison, Wisc.—Drs. Robert Wright Bedinger, Dunnsville; Vernon Lonsdale Cofer, Jr., Norfolk.

BETH ISRAEL HOSPITAL, New York City—Dr. Doris Ada Berlin, Poughkeepsie, N. Y.

BELLEVUE HOSPITAL, FOURTH DIVISION, New York City—Dr. Samuel Poindexter Oast, III, Portsmouth.

JEFFERSON AND HILLMAN HOSPITALS, Birmingham, Ala.—Dr. Arthur King Black, Bowman, S. C.

UNION MEMORIAL HOSPITAL, Baltimore, Md.—Drs. Collinson Pierrepont Edwards Burgwyn, Petersburg; Paul Edwin Gordon, Clarksburg, W. Va.

UNIVERSITY OF MARYLAND HOSPITAL, Baltimore, Md.—Dr. William Albert Niermann, Huntington, W. Va.

MERCY HOSPITAL, Pittsburgh, Pa.—Dr. Phil Lattimer Chapman, Richmond.

THE PENNSYLVANIA HOSPITAL, Philadelphia, Pa.—Dr. Arthur Griffin Meakin, Norfolk.

PHILADELPHIA GENERAL HOSPITAL, Philadelphia, Pa.—Dr. Eric Reiss, New York, N. Y.

ROBERT PACKER HOSPITAL, Sayre, Pa.—Dr. Lucien Wood Roberts, Jr., Richmond.

CRAWFORD W. LONG MEMORIAL HOSPITAL, Altanta, Ga.—Dr. Lee Roy Minor Conn, Blacksville, W. Va.

COLUMBUS CITY HOSPITAL, Columbus, Ga.—Dr. Conley Lee Edwards, Jr., Coeburn.

UNIVERSITY OF GEORGIA HOSPITAL, Augusta, Ga.—Dr. Ezra Goyings, Jr., Richmond.

CINCINNATI GENERAL HOSPITAL, Cincinnati, O.—Dr. Charles William Dennison, Huntington W. Va.

JOHN SEALY HOSPITAL, Galveston, Texas — Dr. John Raymond Freeman, Richmond.

UNIVERSITY OF STOCKHOLM, Stockholm, Sweden —Dr. McChesney Goodall, Jr., Staunton.

BOSTON CITY HOSPITAL, Boston, Mass.—Dr. Charles George Guttas, Virginia Beach.

HENRY FORD HOSPITAL, Detroit, Mich.—Drs. Edward Blair Guy, Norfolk; William Robert Irby, Blackstone.

SOUTHERN BAPTIST HOSPITAL, New Orleans, La.—Dr. Thomas Stacy Lloyd, Jr., Richmond.

CHARITY HOSPITAL OF LOUISIANA, New Orleans, La.—Dr. Harry Glenn Lockhard, Jr., Bedford.

PRESBYTERIAN HOSPITAL, Chicago, Ill.—Dr. William Boyd Looney, Grundy.

BAPTIST MEMORIAL HOSPITAL, Memphis, Tenn.—Dr. Charles William Moorefield, Nathalie.

UNIVERSITY OF OKLAHOMA HOSPITAL, Oklahoma City, Okla.—Dr. John Lambdin Whaley, Victoria.

BROOKE GENERAL HOSPITAL, San Antonio, Texas—Drs. Irvin Walters Cavedo, Jr., Richmond; Crowell Turner Daniel, Jr., Oxford, N. C.; John Newton Gordon, Richmond; Thomas Henry Moseley, Ebony.

OLIVER GENERAL HOSPITAL, Augusta, Ga.—Dr. Albert James Davis, Jr., Danville.

WALTER REED GENERAL HOSPITAL, Washington, D. C.—Dr. Robert William Moseley, Radford.

FITZSIMONS GENERAL HOSPITAL, Denver, Col.—Dr. William Herman Whitmore, Jr., Richmond.

U. S. NAVAL HOSPITAL, Philadelphia, Pa.—Dr. Wilbur Franklin Amonette, III, Radford.

U. S. NAVAL HOSPITAL, Portsmouth, Va.—Dr. George Frederick Elsasser, Jr., Portsmouth.

U. S. NAVAL BASE HOSPITAL, Pensacola, Fla.—Dr. David Walker Mullins, Logan, W. Va.

U. S. MARINE HOSPITAL, Baltimore, Md.—Drs. Carl Harrian Laestar, Chicago, Ill.; Robert Kolbe Williams, Richmond.

U. S. MARINE HOSPITAL, Norfolk, Va.—Drs. Richard Quentin Penick, Clearfield, Penna.; William Lamar Roberson, Hopewell.

Other graduates in medicine are:

Dr. Benjamin Philo Baker, Rustburg

Dr. Frank Sevier Flanary, Dryden

Dr. Robert Wheary Irvin, Jr., Roanoke

Dr. David Ross Rogers, Glade Spring

Dr. Charles Merriwether Zacharias, Richmond

UNIVERSITY OF VIRGINIA

Finals celebration for the Department of Medicine were held in conjunction with those of other departments of the University, and started on June 11th, with an informal buffet luncheon for members of the class of '48. The class party was held that afternoon followed by an informal dance in the Memorial gymnasium. The baccalaureate sermon was given in Cabell Hall on Sunday and that afternoon President and Mrs. Darden were hosts at their home to the graduates, their relatives and friends. Class exercises were held Monday morning and degrees were conferred that afternoon. The final address was by David E. Lilienthal, chairman of the United States Atomic Energy Commission.

The following is list of graduates from the Department of Medicine with hospital appointments:

UNIVERSITY OF VIRGINIA HOSPITAL, Charlottesville—Drs. William Phillips Bass, Wallace; Randolph Graham Bradshaw, Bluefield, W. Va.; Paul Lowell Chodosh, Rahway, N. J.; James Stephen Golden, Pineville, Ky.; Glenn Claire Hall, Jr., Pulaski; Charles Taylor Marrow, Jr., Hopewell; Charles Elford McKay, Jr., Greenville, S. C.; Wallace Clay Nunley, East Rainelle, W. Va.; Kathleen (Cawthon) Strickland, Roanoke; John Cecil Wilkinson, Hillsville.

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond—Dr. Edward Griffith Bond, Tarboro, N. C.

ROANOKE HOSPITAL, Roanoke, Va.—Dr. Joseph Wolfe Bear, Jr., Roanoke.

DEPAUL HOSPITAL, Norfolk, Va.—Drs. Calvin Ellis Greene, Lynchburg; Beulah Mae Musgrove, Roanoke.

NORFOLK GENERAL HOSPITAL, Norfolk, Va.—Dr. James Nicholas Psimas, Portsmouth.

GREENPOINT HOSPITAL, Brooklyn, N. Y.—Dr. Norman Nathaniell Adler, Brooklyn, N. Y.

BELLEVUE HOSPITAL, New York, N.Y.—Dr. Kenwyn Gordon Nelson, Scarsdale, N. Y.

PRESBYTERIAN HOSPITAL, New York, N. Y.—Dr. James Beall Rodgers, Martinsburg, W. Va.

BAPTIST MEMORIAL HOSPITAL, Memphis, Tenn.—Drs. Harry Paul Austin, Wytheville; Calvin Fort Stubblefield, Jr., Yazoo City, Miss.

BARONESS ERLANGER HOSPITAL, Chattanooga, Tenn. —Dr. Walter Haines Smartt, Chattanooga, Tenn.

JEFFERSON-HILLMAN HOSPITAL, Birmingham, Ala. —Drs. Charles Edwin Butterworth, Jr., Lynchburg; Warren Cavill Evans, Norfolk; Clyde Vaughan Stanley, Jr., Stanleytown; Andrew White Townes, Jr., Orlando, Fla.

EMPLOYEES' HOSPITAL OF TENNESSEE COAL, IRON AND RAILROAD CO., Fairfield, Ala.—Dr. William David Wright, Jackson, Miss.

SALT LAKE GENERAL HOSPITAL, Salt Lake City, Utah—Dr. Malcolm Smith Chase, Hartford, Conn.

UNIVERSITY HOSPITAL, Ann Arbor, Mich.—Dr. William Bryant Crenshaw, Rochester, Minn.

HENRY FORD HOSPITAL, Detroit, Mich.—Dr. John Martin Johnson, Jr., Appalachia.

CHARLESTON GENERAL HOSPITAL, Charleston, W. Va.—Dr. Doff D. Daniel, Jr., Beckley, W. Va.

BAYLOR UNIVERSITY HOSPITAL, Dallas, Texas.—Drs. Robert Vance Dutton, Salisbury, N. C.; Frank McCutchan Ryburn, Jr., South Charleston, W. Va.

JEWISH HOSPITAL, Philadelphia, Pa.—Dr. Harold Seymour Farfel, Portsmouth.

GERMANTOWN DISPENSARY AND HOSPITAL, Philadelphia, Pa.—Dr. John Quackenbush Hatten, Hampton.

COLORADO GENERAL HOSPITAL, Denver, Colo.—Dr. Leonard Oswell Fears, Jr., Lynchburg.

ST. LOUIS CITY HOSPITAL, St. Louis, Mo.— Dr. Edward Watts Gamble, III, Boston, Mass.

UNIVERSITY OF IOWA HOSPITAL, Iowa City, Iowa—Drs. Lucy Goode Garnett, Blacksburg; Powell Leon Perkins, Oakwood.

CINCINNATI GENERAL HOSPITAL, Cincinnati, O.—Drs. Edwin Wayne Gilley, Gate City; John Atkinson Owen, Jr., South Boston.

GARFIELD MEMORIAL HOSPITAL, Washington, D. C. —Dr. Elliott Clarke Haley, Front Royal.

N. C. BAPTIST HOSPITAL, Winston-Salem, N. C.—Dr. Andrew Wentworth Hargroves, Jr., Portsmouth.

DUKE UNIVERSITY HOSPITAL, Durham, N. C.— Dr.

Arthur Rogers Summerlin, Jr., Laurinburg, N. C.

VIRGINIA MASON CLINIC, Seattle, Wash.— Drs. Robert Gillis Kindred, Charlottesville; Lyle Beuhring McGinnis, Charlottesville.

UNION MEMORIAL HOSPITAL, Baltimore, Md.—Drs. Frederic MacCabe, Jr., Port Washington, N. Y.; Bennie Celia Slaughter, Millerville, Ala.

TOURO INFIRMARY, New Orleans, La.—Dr. Merwin Blanchard Moore, Jr., Huntington, W. Va.

INDIANAPOLIS CITY HOSPITAL, Indianapolis, Ind.— Dr. William C. Morgan, Jr., Welch, W. Va.

MILWAUKEE COUNTY HOSPITAL, Milwaukee, Wis.— Dr. Jack Francis Murray, Milwaukee, Wis.

ST. LUKE'S HOSPITAL, Chicago, Ill.—Dr. Marshall Jerome Snapp, Winchester.

UNIVERSITY OF GEORGIA HOSPITAL, Augusta, Ga.— Dr. Aaron Wayne Sullivan, Beaumont, Miss.

U. S. MARINE HOSPITAL, Staten Island, N. Y.— Drs. Russell Eldridge Blankinship, Jr., Lynchburg; William Burdette Crawford, Jr., Charlottesville.

U. S. PUBLIC HEALTH SERVICE, Detroit, Mich.— Dr. Quinter Milton Burnett, Arlington.

U. S. PUBLIC HEALTH SERVICE, Baltimore, Md.— Dr. Douglas Harman Crockett, Bluefield, W. Va.

U. S. PUBLIC HEALTH SERVICE, Philadelphia, Pa.— Dr. Samuel Wharton Johnson, Jr., Norfolk.

U. S. PUBLIC HEALTH SERVICE, Norfolk, Va.—Dr. William Hampden Sage, III, Charlottesville.

Dr. Sarah Elizabeth Roberts, Charlottesville, will not intern.

The Medical College of Virginia Alumni Association

Held its annual meeting on June the 7th, at which time Dr. Robert J. Wilkinson of Huntington, W. Va., was elected president to succeed Dr. Harry Lee Claud of Washington, D. C., Dr. Alan J Chenery of Washington, D. C., was chosen president-elect, to take office next year. The following vice-presidents were named: Dr. Powell G. Fox (medicine), Raleigh, N. C.; Dr. G. A. C. Jennings (dentistry), Richmond; H. G. Whitehead (pharmacy), Richmond; Mrs. Sabra S. Sadler (nursing), Richmond. Dr. W. Henry Street and Dr. Harvey B. Haag, both of Richmond, were re-elected secretary and treasurer, respectively. New members of the board of trustees are: Dr. Waverly R. Payne, Newport News; Dr. Donald S. Daniel, Richmond; Dr. Alan F. Kreglow, Washington, and Dr. James H. Smith (re-elected), Richmond.

Southern Medical Association.

The 42nd annual meeting of this Association will be held in Miami, Florida, October 25-28, with the Dade County Medical Association as host.

Jefferson Hospital Staff Dinner.

On May 24th, the Staff of the Jefferson Hospital, Roanoke, held a dinner meeting at Hotel Roanoke, with the following guest speakers from Johns Hopkins Hospital, Baltimore: Dr. A. McGehee Harvey, Physician-in-Chief—"Some Recent Advances in the Treatment of Medical Diseases"; Dr. William P. Longmire, Jr., Associate Professor of Surgery—"The Surgical Treatment of Esophageal Abnormalities"; and Dr. William Wallace Scott, Professor of Urology—"The Importance of Hematuria".

Married.

Dr. Edmund Madison Chitwood, Jr., Charlottesville, and Dr. Sarah Elizabeth Watson Roberts, Man, W. Va., June 14th. They are both graduates of the School of Medicine, University of Virginia, Classes of 1947 and 1948, respectively.

University of Virginia News.

The tenth biennial award of the John Horsley Memorial Prize in Medicine was made on April 28, in connection with the Sigma Xi annual initiation of new members. The award consists of a certificate and a prize of $600.00. The prize was founded in 1927 by Dr. J. Shelton Horsley of Richmond in memory of his father. The winner of this year's award was Dr. James Workman Culbertson, class of 1940, for his research on the "Effect of Various Types of Sympathectomy Upon Vasopressor Responses in Hypertensive Patients."

The Annual Meeting of the Westchester Surgical Society was held at the University of Virginia Medical School on April 25. Members of the Surgical Staff presided over a series of presentations by members of the University Hospital and Medical School Staff.

Dr. Otto Loewi, research professor of pharmacology at New York University College of Medicine, gave a series of lectures at the University of Virginia on May 17-19. Dr. Loewi's visit was sponsored by the Richmond Area University Center. Among Dr. Loewi's subjects were "The Transmis-

sion of Nervous Impulses", "The Control of Internal Secretions", and the "Relation of Value and Effect of Works of Fine Art".

Dr. John Riddervold, Chief of Surgery at the hospital in Sauda, Norway, visited the University of Virginia on May 17th and 18th. Dr. Riddervold came to this country recently for a study visit to various Medical Schools in the country.

On May 27th, Alpha Omega Alpha, National Honorary Medical Fraternity, presented as guest speaker Dr. Austin M. Brues of the Argonne National Laboratory. Dr. Brues spoke to the faculty and student body on the subject: "The Toxicity and Medical Usefulness of Radioactive Materials".

Dr. S. A. Vest, Professor of Urology, was guest speaker at a meeting of the American Urological Association meeting in Boston, on May 17. He spoke on the subject, "Use of Caronamide".

Dr. Andrew Hart spoke to the Norfolk County Medical Society on the subject, "Psychomatic Disease", at a meeting on May 26.

On June 3, Dr. Oscar Swineford addressed the Guilford County North Carolina Medical Society on "The Use of Drugs in Allergy", in High Point, N. C.

Dr. Samuel Doswald Sturkie (Univ. of Ga., 1932) has been appointed Associate Professor of Preventive Medicine in the University of Virginia School of Medicine, effective July 1, to fill the vacancy created by the resignation of Dr. Thomas Shepherd Englar. Dr. Sturkie was appointed as health officer in 1934 in Alabama after attending the Johns Hopkins School of Public Health. He was associated with the U. S. Public Health Service, the Joint Health Department and the University of Virginia in a joint survey of the venereal disease situation in Charlottesville and Albemarle County in 1940. After the completion of this work, Dr. Sturkie served as Health Officer with headquarters in Marion, from 1941 to May, 1943, when he assumed his present post as director of health and welfare for the City of Lynchburg.

The American Gynecological Society

Held its seventy-first annual meeting at Williamsburg Inn, Williamsburg, May 24-26, under the presidency of Dr. Emil Novak of Baltimore. The entertainment which had been arranged added to the interest of those attending. Dr. Ludwig Emge of San Francisco was elected president; Dr. Paul Titus of Pittsburgh vice-president; Dr. Norman F. Miller of Ann Arbor was re-elected secretary; and Dr. James R. Miller of Hartford, Conn., was re-elected treasurer. The 1949 meeting will be at Hot Springs, Va.

Dr. Rucker Honored.

At the fiftieth anniversary meeting of the Medical Library Association in Philadelphia, the latter part of May, Dr. M. Pierce Rucker, Richmond, was elected honorary vice-president.

Dr. Asher L. Baker,

Until recently assistant chief of neuropsychiatry at Branch 4, VA Administration, Richmond, has located in Portland, Conn., where he is associate physician at Elmhurst Manor, a private psychiatric hospital.

Dr. Lloyd Moss,

Class of '41, Medical College of Virginia, who has been connected with the house staff of the Medical College of Virginia Hospital, the Children's Hospital in Boston, and McGuire VA Hospital, Richmond, has joined the staff of the Medical Center in Fredericksburg.

Pine Camp Journal Club.

Dr. Carl LaFratta, superintendent of Pine Camp Hospital, Richmond, was recently elected president of its Journal Club, succeeding Dr. William Burton. Dr. Evelyn Stull was re-elected secretary. The Club meets monthly for discussion of diseases of the chest.

Dr. Rudd Again Honored.

Dr. Wortley F. Rudd, dean emeritus of the School of Pharmacy, Medical College of Virginia, received the honorary degree of Doctor of Humanities from the University of Tampa, Florida, at its commencement exercises early in June. Dr. Rudd recently retired after forty-five years of continuous service with the Medical College of Virginia.

Jefferson Medical College Commencement

The one hundred and twenty-fourth annual commencement of The Jefferson Medical College of Philadelphia was held on June 4, at which time the 148 members of the graduating class received the Degree of Doctor of Medicine from Robert P.

Hooper, President of the Board of Trustees of the College and Dr. Wm. Harvey Perkins, Dean.

Honorary Degrees were conferred upon the following: Doctor of Laws, Paul Gray Hoffman, Economic Cooperation Administrator, in absentia; Doctor of Science, Dr. John H. Gibbon, Professor of Surgery and Clinical Surgery, Emeritus, The Jefferson Medical College and Dr. Le Roy A. Schall, Professor of Otology and Laryngology and Head of the Department, Harvard Medical School (Dr. Schall is an alumnus of The Jefferson Medical College).

The Commencement Address was delivered by Dr. Fred Pierce Corson, Bishop of The Methodist Church, whose topic was "The Instincts of the American Mind".

The graduating class of 1948 presented a portrait of J. Earl Thomas, M. S. M. D., Professor of Physiology, to the College.

Dr. G. Z. Williams,

Richmond, has been appointed by the American Association of Blood Banks as its official representative in Virginia. One of the duties of such a representative is to acquaint hospitals and doctors with the purposes of this Association.

Dr. Hawes Campbell, Jr.,

Has located at 2221 Williamson Road, Roanoke, and is on the Medical staff of the Norfolk and Western Railway.

Dr. James B. Black, Jr.,

Richmond, announces the opening of his office for the practice of internal medicine at 1001 West Franklin Street.

Addition to A.M.A. Building.

Contractors have begun work on a five-floor addition to the A.M.A. headquarters building in Chicago. The job consists of adding five floors in the rear of the building from the third to the eighth floors. It is hoped that by adding approximately 7,000 square feet of space on each floor, much of the congestion, which now exists in the present structure will be relieved. The contract calls for completion of the work by February 1949.

Seal of the Society Wanted!

In the proceedings of the Medical Society of Virginia for 1873, Dr. F. D. Cunningham presented the Society with the original seal of the organization. It is stated "Besides an appropriate device, it bears the inscription, *Sigillum Societatis Medicae Virginiae*, * * * *". This seal has been lost and no copy of it is found in the Society's files.

If anyone has a copy or knows where a copy might be obtained, please notify the Society at 1200 East Clay Street, Richmond 19. It is known that this seal was used on Certificates of Membership for some years.

Dr. William Branch Porter,

Richmond, will represent the American Medical Association, the American Board of Internal Medicine and the Medical College of Virginia at meetings of the British Medical Association to be held June 21 through July 2 at Cambridge University. Dr. Porter, who is chief of the department of medicine and professor of medicine at the Medical College of Virginia, with Mrs. Porter sailed June 9 aboard the Queen Mary for England.

Following the meeting, Dr. Porter will be sent by Surgeon-General Bliss of the United States Army on a lecture tour in the United States zone of Germany and Austria. He will lecture and inspect military medical schools in fifteen of the major cities of the two countries. He served throughout the war and is still serving on the civilian consultant staff for General Bliss.

Syphilis Records of Veterans Available.

The Veterans Administration has in its custody the majority of syphilis records of those Army personnel who were treated for this disease while in active service, and in many instances can procure informative data from the syphilis records of other than Army personnel. It is thought that many physicians treating veterans for syphilis as private patients would find a resume of the syphilis record useful since the details of treatment, results of spinal fluid examinations, and blood serologies are incorporated in the records.

Resumes of these records are available to physicians who are treating such veterans provided authorization for the release of the data is given by the veteran. Requests for the resumes accompanied by an authorization for the release of the data, dated and signed by the veteran, should be addressed to the Dermatology and Syphilology Section, Veterans Administration, Munitions Building, Washington 25, D.C. It is most important that the veteran's Service Serial Number and other identifying infor-

mation, such as the date of enlistment, the date of discharge, rank, and organization be included.

Ordinarily, the resumes can be furnished in approximately two weeks from the date of the receipt of the request and signed authorization.

Dr. V. John Murgolo,

Recently of Portsmouth, is now in Washington, D. C., where he is serving a preceptorship with Dr. George B. Trible in Ear, Nose and Throat. He will be there for about two years.

A Versatile Doctor.

Dr. W. O. Bailey, Episcopal layman, and well known eye, ear, nose and throat doctor of Leesburg and Warrenton, delivered the sermon to a large congregation at the Purcellville Baptist Church on May 23. His subject was Attributes of the Bible and, in his discussion, he emphasized the fact that Biblical literature is unmatched in its brevity of language, its conciseness, its simplicity, its poetry and its practical philosophy and revelation through prayer and good work.

Dr. F. Musgrave Howell,

Of Irvington, but formerly of Hopewell, has opened an office in the Professional Building at Kilmarnock, for practice devoted mainly to pediatrics. He still maintains his residence at Irvington.

Dr. E. G. Gill,

Roanoke, was recently elected a member of the Oxford Ophthalmological Congress of London, England.

Roentgenologist at Riverside Hospital.

Dr. Andrew K. Butler will assume his duties as Roentgenologist at Riverside Hospital, Newport News, on August 1st. He is a graduate of Rush Medical College, University of Chicago, in 1942, and has recently been at the University of Michigan Hospital at Ann Arbor, taking special training in radiology.

New Books.

Among the new books recently secured by the Library of the Medical College of Virginia are the following which are available to Virginia doctors under usual library rules:

Bauer—Private enterprise or government in medicine.
Brock—Anatomy of the bronchial tree.
Crile—George Crile: An autobiography.
Dameshek—Morphologic hematology.
Dean—Modern colloids.
Frohman—Brief psychotherapy.
Gates—Human ancestry from a genetic point of view.
Halliday—Psychosocial medicine.
Jacobson—Encyclopedia of chemical reactions.
Jacobs—Synthetic food adjuncts.
Judovich—Segmental neuralgia in painful syndromes.
Leithauser—Early ambulation and related procedures in surgical management.
Moench—Headache.
Obrig—Contact lenses.
Peterson—Man, ether, sun.
Rosen—400 years of a doctors life.
Shwartzman—Hemorrhage.
Stitt, Clough and Branhams—Practical haematology and parasitology. 10th ed.
Trelease—The scientific paper. How to prepare it.
White and Geschickter—Diagnosis in daily practice.
Yearbook of endocrinology, metabolism and nutrition. 1947.

For Sale;

1 S.W. Diathermy #550 and attachments (Liebel-Flarsheim) in excellent condition;

1 S.W. Diathermy #500 and attachments (Liebel-Flarsheim) good condition;

1 Electro-surgical portable Bovie unit;

1 G.E. Model C Quartz Lamp.

This equipment may be seen at the home of the late Dr. J. E. Knight at Warrenton, Va. (*Adv.*)

OBITUARIES

Dr. Robert Richard Lee,

Martinsville, died June 6th. He was seventy-nine years of age and a graduate of the College of Physicians and Surgeons, Baltimore, in 1893. Dr. Lee had practiced in Martinsville for more than half a century, and had been a member of the Medical Society of Virginia for fifty-five years. His wife and a son survive him.

Dr. James Sinkler Irvine,

Evington, died May 30th, at the age of eighty. He was a graduate in medicine from the University of Louisville (Ky.) in 1891. Dr. Irvine had practiced for almost sixty years and since 1910 had been a surgeon for the Southern Railway. He had been a member of the Medical Society of Virginia for fifty-five years. Four children survive him.

Dr. Eugene Hartwell Luck,

Roanoke, died May 10th. He was sixty-two years of age and a graduate of the Medical College of Virginia in 1912. Dr. Luck had been a member of the Medical Society of Virginia for thirty-two years.

The following resolution was adopted by the Roanoke Academy of Medicine:

By appointment of Dr. Charles M. Irvin, President of the Roanoke Academy of Medicine, this committee acting for the Academy presents the following resolutions.

It is with deep regret that the Academy has learned of the death of Dr. Eugene H. Luck which occurred on May 10, 1948.

We wish to extend to his family our deepest sympathy. He will not only be a great loss to his family but also to the medical profession and the genuine friends he has made, many of whom were members of his profession.

It is resolved that a copy of this be entered upon the minutes of the Roanoke Academy of Medicine and that copies be sent to the family and the State Medical Society.

J. D. WILLIS
M. R. FAVILLE
S. B. CARY
Committee

Dr. Arthur Lee Wilson.

The *Monthly* has just been notified of the death of Dr. Wilson, Lynchburg, on August 5, 1947. He was seventy-three years of age and had been a member of the Medical Society of Virginia for forty-seven years.

Dr. Zenobia G. Gilpin,

Widely known colored physician of Richmond, died June 11th after a short illness, at the age of forty-four. She had been secretary of the St. Philip Post-graduate Clinic of the Medical College of Virginia since its beginning in 1936, was a member of the Board of Directors of the Memorial Guidance Clinic, and served in a number of other medical and civic capacities.

Appreciation of Dr. Gordon.

There is no structure, however strong, that is not affected intrinsically by the loss of one of its firmest supports. Thus, the medical profession of Virginia and this Academy of Medicine in particular suffers a profound loss in the untimely and deeply regrettable death of Dr. Marshall Peterson Gordon, Jr., age 43 years, thus ending a young career before it had fairly started him up the "Urological Ladder" for which his training, character and ability so well equipped him. Had the Grim Reaper spared him, he would doubtless have reached the topmost rung of that "Ladder".

Dr. Gordon was born in Richmond, Virginia, October 26, 1904. His early education was acquired in the Richmond Public Schools and the old Richmond Academy, later he entered the University of Virginia where, after graduating from the Academic School, he entered the School of Medicine, graduating in the class of 1927. The following year he interned at the University of Virginia Hospital and a year later accepted an appointment to the House Staff of Johns Hopkins Hospital and was immediately assigned to service at the Brady Institute (of Urology) going through the residency on that service. Following this he returned to Richmond and began the practice of Urology in 1932.

He enlisted in the Navy during the second World War, was commissioned a Lieutenant and, when discharged twenty-six months later, had risen to the rank of Commander. Dr. Gordon was on the staff of various Richmond Hospitals, and devoted considerable time and effort among the poor at Sheltering Arms and The Medical College.

Dr. Gordon's life was rich in friendships and he had the devotion of his family, which included his wife and two young children. He was kind and unassuming, having the respect and esteem of all his colleagues, as well as the students with whom he was in constant touch. No patients, to our knowledge, ever received more personal attention than those of Dr. Gordon's, being seen either early or late as the case required.

Dr. Gordon was an active member of the Richmond Academy of Medicine, the Medical Society of Virginia, the Virginia Urological, American Urological and the American Medical Associations.

While attending a meeting of the Board of Stewards of Monument Methodist Church May 10, 1948, he became ill, leaving the meeting early, drove home where he died suddenly an hour later from coronary thrombosis.

He will be missed in the profession, missed in those little gatherings about the hospitals in which he served his patients so faithfully, and by hundreds to whom he had endeared himself.

It is requested that this humble tribute to our friend and fellow member be written into the minutes of the Richmond Academy of Medicine and that a copy be given the VIRGINIA MEDICAL MONTHLY for publication.

WEBSTER P. BARNES
AUSTIN I. DODSON
RUDOLPH C. THOMASON
Chairman.

EVERY OFFICE NEEDS
THE NEW
MENDA ALCOHOL
DISPENSER

because:

Menda SAVES TIME
Menda STOPS WASTE
Menda is CONVENIENT
Menda is SPILL PROOF
Menda is ADJUSTABLE
Menda is IDEAL FOR ALL SOLUTIONS

POWERS AND ANDERSON

Richmond Norfolk Lynchburg Roanoke
Virginia

IT MAKES A LOT OF DIFFERENCE WHAT DIAPER SERVICE A DOCTOR RECOMMENDS!

RICHMOND

ASHLAND, BON AIR,
HIGHLAND SPRINGS,
SANDSTON

Stork Diaper Service, Inc.,
3119 W. Moore Street,
Phone 5-2113

NATIONAL INSTITUTE DIAPER SERVICES
SAFETY SEAL
MEMBER

NEWPORT NEWS
AND HAMPTON

Bi-Weekly delivery anywhere
on the lower Peninsula

Di-De Service,
424 Catalpha Avenue, Hampton
Phone 4-1492

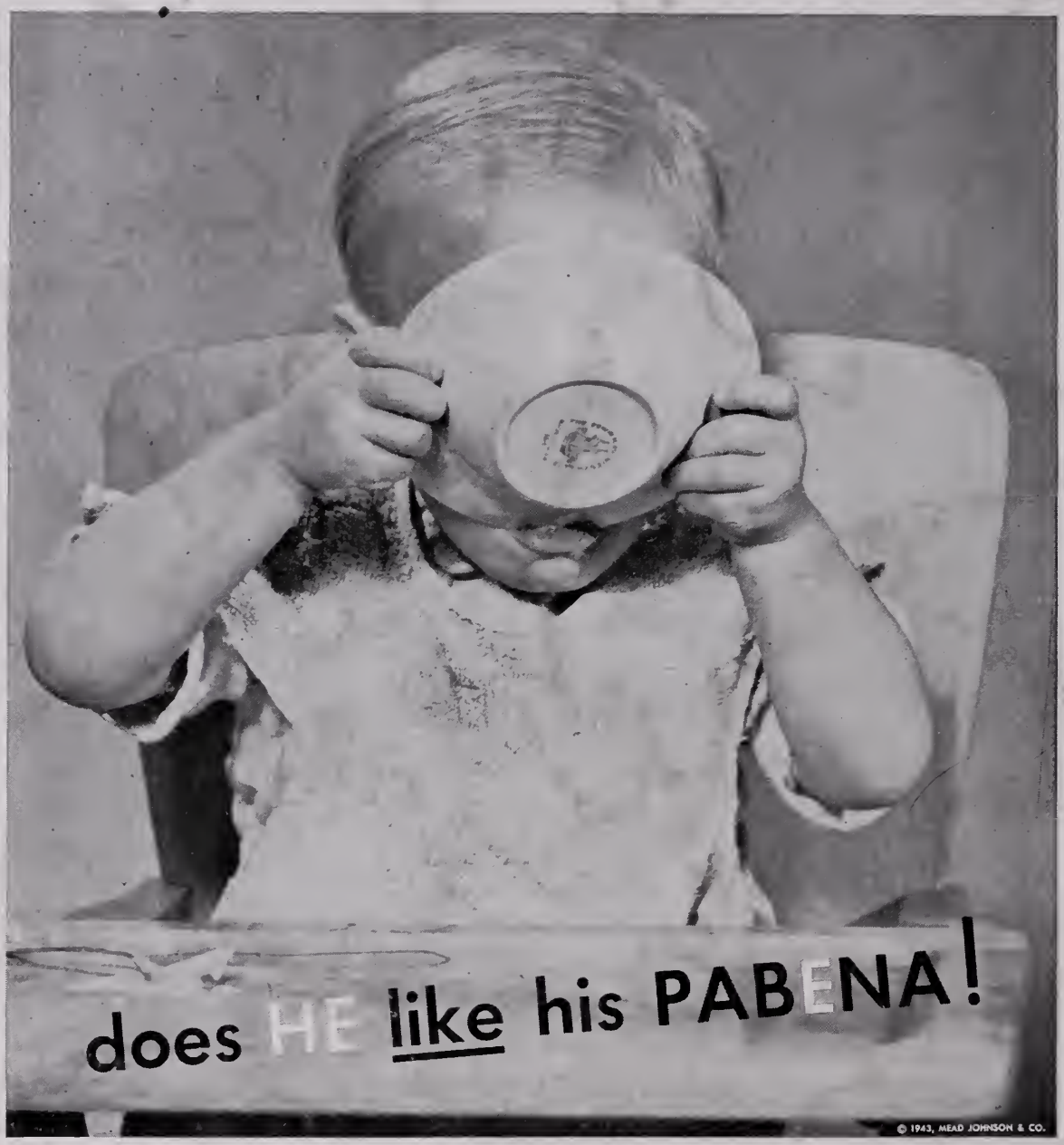
These diaper services meet the strict sanitary and hygenic standards of the National Institute of Diaper Services. Their products are under "National Laboratory Control", periodically checked by chemists and bacteriologists to maintain 100% safety.

DOUBLE PROTECTION

PERM-ASEPTIC PROCESS

PERM-ASEPTIC PROCESSED

"Perm-Aseptic is to diapers what Pasteurization is to milk."



WHEN interviewed between platefuls, this 11-months-old young man emphatically stated: "I have been brought up on Pablum and still like it, but some days when I'm in the mood for oatmeal, nothing satisfies me like Pabena!"

Nutritious, quick and easy to prepare, both products are for sale at drug stores.

MEAD JOHNSON & COMPANY, EVANSVILLE, IND., U.S.A.

THE N.Y. ACADEMY
OF MEDICINE
AUG -5 1948
LIBRARY

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Guest Editorial. Henry S. Johnson, M.D., ---------- 379
The Role of Ammonium Chloride and Other Acid Producing Substances in the Treatment of Congestive Heart Failure. A. J. Crutchfield, Jr., M.D., and J. Edwin Wood, Jr., M.D., Charlottesville, Va. ---------- 381
Tic Douloureux: Review of 200 Cases Treated by Surgery. Claude C. Coleman, M.D., John M. Meredith, M.D., and Charles E. Troland, M.D., Richmond, Va. ---------- 386
Streptomycin in the Treatment of Draining Tuberculous Sinuses. Walter L. Nalls, M.D., and Ralph E. Moyer, M.D., Oteen, North Carolina. ---------- 389
The Clinical Significance of the RH Factor. W. C. Winn, M.D., Richmond, Va. ---------- 393
Hemolytic Anemia in the Newborn. Edwin L. Kendig, Jr., M.D., Richmond, Va. ---------- 395
Sulfadiazine in the Treatment of Meningococcic Meningitis: A Study of Sixty Cases Without a Death. Sidney G. Page, Jr., M.D., and M. Jane Page, M.D., Richmond, Va. ---------- 397
The Practical Application of Unipolar Leads in Clinical Electrocardiography. Reno R. Porter, M.D., and Nathan Bloom, M.D., Richmond, Va. ---------- 403
Protruded Cervical Intervertebral Disk Simulating Heart Disease. Conrad L. Gossels, M.D., Mount Jackson, Va. ---------- 408
Treatment of Bronchial Asthma. K. D. Graves, M.D., Roanoke, Va. ---------- 411
The Nutritional Management of the Nephrotic Syndrome. Harry Y. Spence, M.D., and Lee E. Sutton, Jr., M.D., Richmond, Va. ---------- 413
Physical Medicine in General Practice. Wendell E. Malin, M.D., Wytheville, Va. ---------- 416
Nail Changes Following the Application of a Nail Preparation. Allen Pepple and Richard W. Fowlkes, Richmond, Va. ---------- 418
Basal Cell Epithelioma: Some Valuable Pointers Gained in the Successful Treatment of 300 Cases by X-Ray Radiation. George H. Carr, Sr., M.D., Portsmouth, Va. ---------- 420
Diabetes Insipidus. A. B. Grubb, M.D., Cripple Creek, Va. ---------- 422

Continued on page 6.

Medical Society of Virginia
Annual Meeting
Richmond, October 18-20, 1948

August, 1948

Well

BENADRYL®

histamine antagonist

BENADRYL *(diphenhydramine hydrochloride, P. D. & Co.)*

Versatile	***Economical***	***Effective in small dosage***
Rapid-acting	***Non-habit-forming***	***Wide range of tolerance***

Virginia Medical Monthly

Vol. 75, No. 8
WHOLE No. 1154

RICHMOND, VA., AUGUST, 1948

$2.00 A YEAR
25 CENTS A COPY

GUEST EDITORIAL

Virginia Assembly Looks at Solicitation of Funds for Medical Care

THE 1948 Virginia General Assembly, through House Bill 122, named the State Corporation Commission as an agency to require reports, estimates, facts and other data from those agencies operating on a State-wide basis in Virginia that exist primarily for the solicitation of funds from the public for medical care.

Requirements of the law include a statement of how funds were spent in the past, what proportion was consumed in the solicitation campaign, for administration, what proportion remained in the State, and what percentage is customarily transferred outside the State.

The bill also provides that the State Corporation Commission would have to assist it an Advisory Board, composed of "the State Commissioner of Health, the Commissioner of Public Welfare, the Superintendent of Public Instruction, the Commissioner of Mental Hygiene and Hospitals, a representative of the Medical Society of Virginia appointed by the Governor, and two members of the public appointed by the Governor from the State at large."

In substance, this legislation places with the State Corporation Commission the responsibility of approving or disapproving such agencies as are referred to above. Those appearing to be satisfactory would pay an annual certificate fee of $25, renewable annually prior to August 1.

For several years some Chambers of Commerce and perhaps some units of municipal government in the State have been interested in this type of analysis of such agencies.

It is deemed that the General Assembly is the proper agency to regulate these matters which so vitally concern the giving public and medical needs of our people. This will represent the first State-wide protection and assurance that the public has had in its appraisal of these agencies and the worthiness of their causes.

Although it should not be predicted here what course the State Corporation Commission will follow in administering this law, it is believed that the intent of this bill was not to reduce contributions from the public for medical care, but instead to increase these by establishing greater confidence on the part of the public in these agencies and the use to which these funds are put.

It is hoped that the Advisory Board, representing, among others, those who would be expected to be especially interested in health and medical care, can render a real service to the State Corporation Commission by its advice, not only on items pertaining to compaigning for funds, but in an approach to a more equitable distribution of these according to our health and medical care needs in the State.

This legislation should present a challenge to medical men in Virginia and others interested, to render every assistance in fund raising and fund spending wherever

needed, to the end that our people may get the medical care they need through funds provided by the public, in instances where they are unable to provide such funds themselves.

HENRY S. JOHNSON,
Director, Public Relations,
Medical Society of Virginia

Bibliotheco Obstetrica

VON SOEMMERRING, SAMUEL THOMAS (1755-1830): Icones embryonum humanorum. Francofurti ad Moenum, Varrentrapp u. Wenner, 1799. 10 p. Two large engraved vignettes by F. L. Neubauer on title-page. Two large engraved plates drawn by Christian Köck, one by the brothers Klauber and one by Hüllmann. 59.8 cm.
——: Abbildungen und Beschreibungen eiginer Misgeburten. Mainz, Universitätsbuchhandlung, 1791. 38 p. engr. 33.5 cm. (M.L.)

Soemmerring met William Hunter while on a visit to London in 1778. He was so impressed with Hunter's Anatomy of the Human Gravid Uterus, that be brought out the Icones embryonum humanorum dealing with the appearance of the embryo in the first half of pregnancy as a supplementary volume to Hunter's work. It is one of the best illustrated of Soemmerring's works. Achondroplasia is first described on page 30 and pictured on plate 11 of the Abbildungen and Beschreibungen eiginer Misgeburten.

Soemmerring, one of the great anatomists, was the son of a German physician. He was born in Thorn, Poland, and studied under Wrisberg at Göttinggen and Camper in Holland. His ideal was Albinus who had stressed the importance of portraying the anatomic norm. He was an artist in his own right and he trained Christian Köck to make anatomic drawings under his direction. He held professorships at Cassel, Mainz and Munich. He made important researches on the brain, the eye, the ear, nose and throat, hernia and the anthropology of the negro. Probably he is best remembered for his classification of the cranial nerves. The pudendal nerve sometimes goes by his name. He was also one of the inventors of the electric telegraph. His picture may be found in Garrison's history of Medicine and also in the Annals of Medical History (1924,s.1,VI, facing 363).

THE ROLE OF AMMONIUM CHLORIDE AND OTHER ACID PRODUCING SUBSTANCES IN THE TREATMENT OF CONGESTIVE HEART FAILURE*

A. J. CRUTCHFIELD, JR., M.D.,
and
J. EDWIN WOOD, JR., M.D.,
Charlottesville, Virginia.

Acid ash diets and other acid producing substances have become increasingly popular as therapeutic measures for congestive heart failure during the past five years. This is largely due to the fact that these measures facilitate elimination of the sodium ion. Renal retention of this ion has been shown to be of near primary importance in the pathogenesis of congestive heart failure.

It is the purpose of this paper to delineate some of the theoretical and practical aspects of the application of these substances. More specifically, the aspects to be considered are: (1) The manner in which the body handles acid producing substances as a basis upon which to choose between their intermittent or continuous administration, also to give a plausible explanation for the seeming synergism between acid producing substances and mercury and xanthines; (2) The low sodium *versus* the acid ash diet; (3) Indications, contra-indications, dosage and routes of administration of the chemical preparations involved.

Ammonium chloride and dilute hydrochloric acid are the only acid producing substances which will be discussed. The major portion of the presentation is based on information derived from the literature, though observations made in this laboratory and clinic are included.

In order to approach the problem of how to make best use of the acid producing substances, one must have a knowledge of the manner in which they are handled in the body. Since ammonium chloride is the most widely used member of the group, it will be used as the reference substance for discussion. Following ingestion, ammonium chloride is presented from the upper gastrointestinal tract to the liver. The liver rapidly converts the ammonia ion to urea, leaving the chloride ion to be covered by fixed base which is derived from the alkali reserve of the extracellular fluid. The resulting changes in blood chemistry show an increase in plasma sodium chloride concentration and a decrease in plasma carbon dioxide combining power. The kidney begins immediately to eliminate the excess chloride. Since chloride is derived from the strong acid hydrochloric, it must be covered by a basic ion as it enters the urine. Sodium constitutes ninety-two per cent of the extracellular base thus chloride entering the urine is largely covered by sodium. For each 142 milliequivalents of sodium removed in such manner, the extracellular spaces must give up one liter of water (edema in the heart failure patient) in order that isotonicity of extracellular fluid may be preserved. Unfortunately for the edematous subject, the kidney does not continue to eliminate the chloride mainly as a sodium chloride. Within three to six days the kidney begins to produce ammonia from glutamine[1] and this ammonia is substituted within the renal tubules for sodium, allowing the latter to re-enter the extracellular fluid If ammonium chloride be continued, the point is reached within five to ten days where ammonia covers nearly all of the urinary chloride[2]. At this time the powerful diuretic action of ammonium chloride is lost, although continued slight diuresis is maintained by the osmotic diuretic effect of the ammonium chloride which is being excreted. Also, a lesser diuretic mechanism which obtains throughout the period of ammonium chloride administration is the osmotic diuretic effect of urea, formed from the ammonia ion by the liver[3]. The above mechanisms of the diuresis induced by acid producing substances, while not totally adequate, do seem to explain more of the observed events than other mechanisms which have been offered.

Other acid producing substances may be fitted into the above scheme. Hydrochloric acid, calcium chloride, ammonium sulfate, ammonium nitrate, and

*From the Cardiovascular Division of the Department of Internal Medicine, University of Virginia Hospital, Charlottesville, Virginia.

Read before the Medical Society of Virginia at its annual meeting in Roanoke, October 15, 1947.

magnesium sulfate are handled essentially in the manner described above.

Therefore, intermittent administration of these substances should, by catching the ammonia producing mechanism of the kidney off guard, force more rapid elimination of sodium than continuous administration. This point is hard to prove but most observers seem to be in agreement that such is the case. Dr. P. D. White advises continuous administration[4]. Our experience with each method has been considerable, and we now use the intermittent method solely.

Apparent synergism between acid producing substances and mercury or xanthine diuretics has long been recognized. We have shown that either mercury or xanthine induced diuresis is accompanied by a disproportionately large increase in urinary sodium[5]. It seems plausible, therefore, that the mechanism of the synergism is the combination of the two influences, both acting to prevent tubular reabsorption of sodium. A corollary of this theory is that mercury or a xanthine should work best when given with an acid producing substance before the ammonia mechanism has been awakened, (e.g., first three days of acid producing substance administration). We have the clinical impression that this is true.

The important clinical points to be considered before using these substances are: (1) The relative state of cardiac competency; (2) The state of extracellular fluid and its electrolyte content; (3) Renal function; (4) Liver function when ammonia containing substances are to be used.

At one extreme is the mild heart failure patient who responds rapidly and well to rest, digitalis and a low sodium diet. Acid producing substances are usually superfluous in this type patient. At the other extreme, is the patient with severe cardiac failure who, in addition to having the usual heart failure picture, also shows clammy skin, marked oliguria, and semi-stupor. This patient excretes chloride very slowly and his kidneys seem to have reduced ability to produce ammonia. He goes quickly into uncompensated acidosis on routine dosage of acid producing substances. This point is illustrated by the case of a forty-one year old male, with normal renal function, who was given eight grams of ammonium chloride daily and within two weeks developed Kussmaul breathing and showed a carbon dioxide combining power of nineteen volumes per cent. It was necessary to stop ammonium chloride administration and to give sodium lactate to correct this. It is much wiser to recognize these patients as likely subjects for uncompensated acidosis and to check the effect of small doses of acid producing substances by freqeunt determinations of the carbon dioxide combining power.

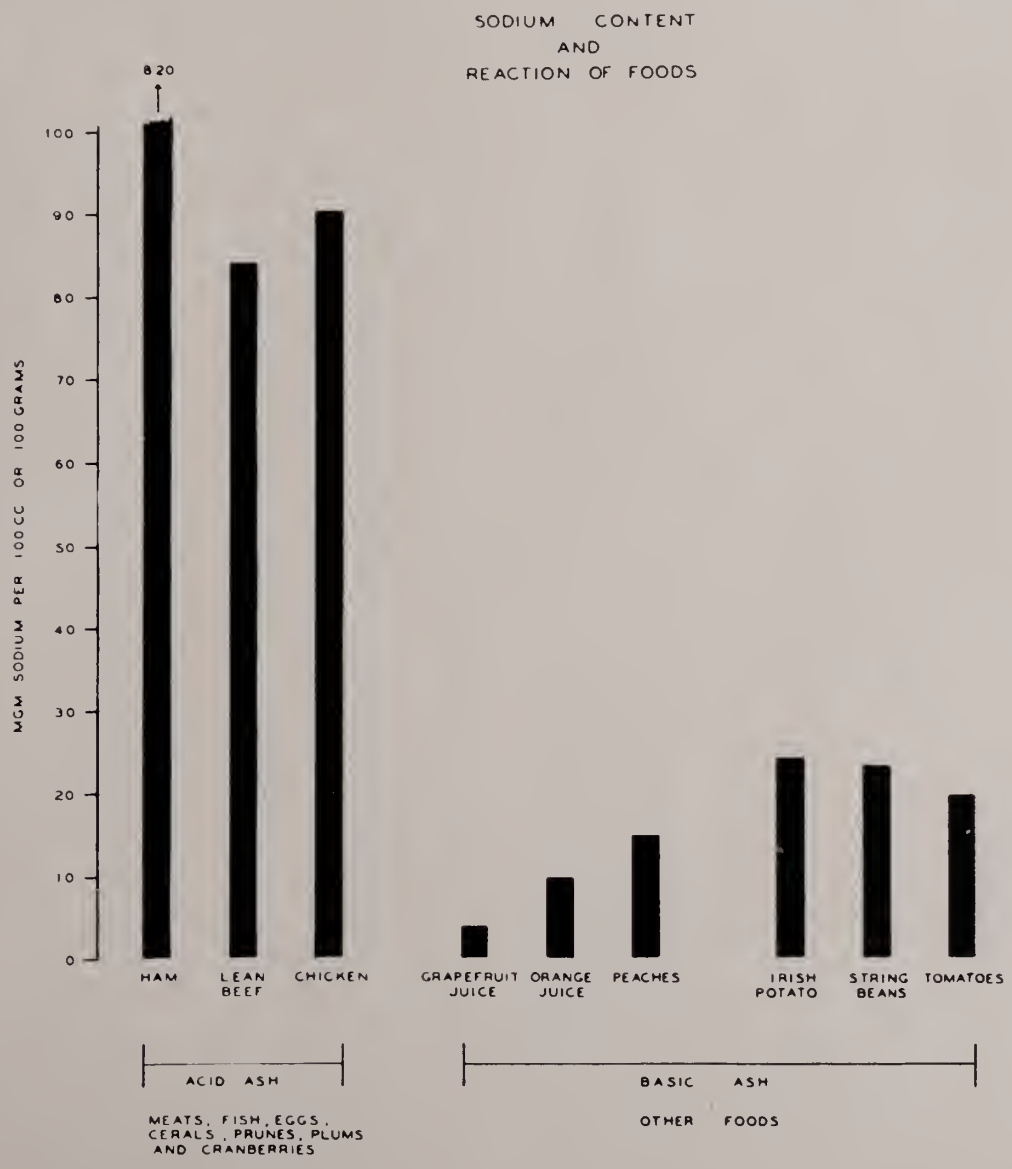
Frequently an edematous heart failure patient is helped to regain and to maintain cardiac compensation by continued intermittent use of acid producing substances and a low sodium diet. In spite of the evidence suggesting that this type patient always has an increased extracellular fluid volume[6], it has been our experience that any complication which makes appreciable inroads on extracellular fluid and its electrolyte is poorly borne in such an individual. Such complications as bouts of vomiting, diarrhea, diabetic acidosis, excessive sweating due to a hot humid environment, or, most important of all, an operation, may quickly lower extracellular fluid volume and electrolyte to the point of peripheral vascular collapse. Our attention has been vividly called to this aspect of the problem by post-operative patients, who for one reason or another eat poorly and at the same time continue to lose one or another of the body's fluids in abnormal amounts. We have recently made it a rule that all such patients must be given a regular diet and all diuretic agents discontinued for a few days pre-operatively, in order to permit some elevation of extracellular stores of fluid and electrolyte.

Nausea and vomiting may be produced by acid producing chemicals. These symptoms in our experience are much less prominent than the literature indicates, for, despite the use of these substances in nearly every congestive failure patient which we have treated during the past two years, we can recall only one or two patients who developed nausea and vomiting secondary to their ingestion.

Since the major portion of the ingested acid ions must be eliminated by the kidney, it is clear that reasonably good renal function must be present to allow safe usage of these acid producing substances. The badly diseased kidney eliminates the acid ions more slowly than does the normal kidney. In addition, due to the diminished ammonia forming power of this type kidney, most of the acid ions

which reach the urine are covered with fixed base. The total effect is rapid reduction of the alkali reserve of the extracellular fluid followed shortly by uncompensated acidosis. It is unwise to exclude patients with the lesser degrees of renal impairment from the group suitable for therapy with acid producing substances. As mentioned above, it is precisely that patient in whom some limitation of renal ammonia forming power exists who is forced to eliminate fixed base to cover the acid ion in question. Therefore, diuresis is more marked and longer sustained under the influence of these substances in this type patient than in one with normal renal function. Arbitrarily it would appear that acid producing substances can not safely be used if the carbon dioxide combining power is already thirty volumes per cent or below. In a few such patients we have cautiously tried small doses but clinical improvement has not been noted.

Conversion of ammonia to urea seems to be almost totally a function of the liver[7]. Elevated blood ammonia concentration has been shown to produce convulsions in dogs. In human subjects with cirrhosis of the liver, drowsiness has been attributed to elevated blood ammonia secondary to failure of the diseased liver to convert the ammonia of the ammonium chloride to urea. We have no data bearing directly on this problem, but it would seem wise



to avoid use of ammonia containing acid producing substances in the face of severe liver damage of any type. Hydrochloric acid can be used safely in these patients. The natural question is, why is dilute hydrochloric acid not the acid producing substance of choice in all patients regardless of liver function? The answer resides in three facts. Its taste bothers some patients and the capsules which contain it in combination with an amino acid are too expensive. Further, it requires fifty cc. of dilute hydrochloric acid to introduce the same number of chloride ions as are contained in eight grams of ammonium chloride.

The usual dosage is eight to twelve grams of ammonium chloride in divided doses daily four consecutive days out of each week. This provides 5.3-7.9 grams of chloride ion. The normal kidney can produce ammonia sufficient to cover sixteen grams of chloride daily[7]. This dosage, in conjunction with the diet described below, serves to provide a surplus of acid ions to our patients without any appreciable danger of uncompensated acidosis. For the occasional patient who can not take oral medication, rectal administration of two grams of ammonium chloride in thirty cc. of water four times a day, though less effective than oral therapy, is worth trying. Intravenous administration has been advocated and seems to be relatively safe. We have had no experience with this but it would appear to be worth while in a very occasional patient[8].

One wonders about skeletal decalcification following prolonged use of acid producing substances. It has been shown in animals that combined use of acid producing substances and diets ample in calcium did not lead to skeletal decalcification of significant grade[9]. We have not observed appreciable skeletal decalcification in patients who have taken ammonium chloride daily for as long as two years.

The acid ash diet has recently been repopularized by Schemm[10]. This observer states that within certain limits the diet reaction is more important than its sodium content. In the present state of our knowledge, the sodium ion is the important ion for the edema forming patient to avoid. An acid ash diet contains meats, eggs, cereals, cranberries, plums, and prunes. Excepting cranberries and plums, all of these have a medium to high sodium content. It seems more rational, therefore, to use a basic ash diet containing more fruits and vegetables which in turn are low in sodium (See chart). We have substituted the latter type diet for its low sodium content, and have produced the desired acid ash by use of one of the above acid producing substances. That this principle is sound is attested by the rather prompt improvement which has appeared in a few patients, without otherwise altering their therapeutic programs, when changed from the Schemm type diet to the above type diet containing 1.0 gram of sodium per day. It is possible to reduce the sodium content of meats considerably by cooking in several stages and discarding the cooking waters. This makes the goal too difficult for the average patient. It seems more practical, therefore, simply to reduce the intake of high sodium content meats, eggs, cereals, and prunes.

CONCLUSIONS

1. The intermittent administration of acid producing substances seems to be theoretically and practically more effective for inducing diuresis than their continuous administration.

2. The seeming diuretic synergism between these substances and mercury or xanthines may be related to the combination of two influences, both acting primarily to increase renal sodium elimination.

3. One must pay proper regard to: (a) The relative state of cardiac competency; (b) Renal function; (c) Liver function when ammonium salts are to be used; (d) and, finally, the state of extracellular fluid and its electrolyte content, before using acid producing substances.

4. Nausea and vomiting and skeletal decalcification do not constitute major problems in the use of these substances.

5. A basic ash diet combined with an acid producing substance seems more rational than an acid ash diet in the treatment of congestive heart failure patients since the latter diet is usually of higher sodium content.

BIBLIOGRAPHY

1. Peters and Van Slyke: Quantitative Clinical Chemistry, Second Edition, 1:873-896.
2. Gamble, Blackfan, and Hamilton: A Study of the Diuretic Action of Acid Producing Salts, *Jour. Clin. Investigation* 1:359-388, 1924-25.
3. Keither and Whelan: The Diuretic Action of Ammonium Chloride and Novasurol, *J.A.M.A.* **85**: 799-806, 1925.
4. White, P. D.: Recent Advances in the Medical Treat-

ment of Heart Diseases, *Bul. N. Y. Acad. Med.* 443-453, August, 1947.

5. Crutchfield and Wood: Urine Volume and Total Renal Sodium Excretion During Water Diuresis, Accepted for Publication in the *Ann. Int. Med.*
6. Seymour, Pritchard, Longley, and Hayman: Cardiac Output, Blood and Interstitial Fluid Volumes, Total Circulating Serum Protein and Kidney Function During Cardiac Failure and After Improvement, *Jour. Clin. Investigation,* 21-229, March, 1942.
7. Newburgh, L. H.: Significance of the Extracellular Fluid in Clinical Medicine, Ernest A. Sommer Memorial Lectures, 1942.
8. Zintel, Rhoads, and Ravidin: The Use of Intravenous Ammonium Chloride in the Treatment of Alkalosis, *Surgery* **14**:728-731, 1943.
9. Jaffe, Bodansky, and Chandler: Ammonium Chloride Decalcification as Modified by Calcium Intake, The Relation Between Generalized Osteoporosis and Osteitis Fibrosa, *J. Exp. Med.* **56**:823-834, 1932.
10. Schemm: A High Fluid Intake in the Management of Edema, Especially Cardiac Edema, II, Clinical Observations and Data, *Ann. Int. Med.* **21**:953-976, December, 1944.

DISCUSSION

DR. R. EARLE GLENDY, Roanoke: The role of acid producing substances and diet in the treatment of congestive heart failure is a very timely subject, and with the increasing use of these measures based upon physiological principles it becomes important to know the method whereby optimal results may be obtained, as well as contraindications to this form of therapy.

The time-honored general measures of rest and digitalis remain the bywords in the treatment of congestive failure but once the heart has failed from progressive cardiac disease, not precipitated by acute myocardial infarction or inflammation, rest and digitalis often become of limited value or entirely inadequate, and we must resort to mercurial diuretics. Long experience with the mercurials has demonstrated their increased effectiveness when administered along with acid producing salts. My own experience has been largely with the continuous administration of ammonium chloride which, with rare exceptions, has been quite satisfactory with very few untoward reactions such as vomiting and abdominal pain. This, along with the periodic injection of a mercurial diuretic and the use of a low sodium diet, strictly adhered to, will be adequate to control the most stubborn case of chronic congestive failure. The practical suggestion offered by Dr. Crutchfield for the intermittent administration of ammonium chloride seems based on sound considerations, and I am sure will be most welcome, particularly to those patients who find it difficult to take.

I most certainly agree with Dr. Crutchfield's conclusions concerning the acid ash diet and believe that it is much easier from a practical viewpoint to attain the desired effect in the kidney through the administration of acid producing salts in conjunction with a low sodium diet of basic ash.

A practical point concerning the use of the low sodium diet is the necessity for explaining the diet in some detail to the patient and anticipating questions concerning it. My experience has been that the most gratifying results are in those patients who adhere strictly to the regimen.

It is at times difficult to be arbitrary about who and who should not be given the mercurial diuretics and acid-producing salts when the question of renal function is raised but it is my impression that they are sometimes denied to patients, on the basis of urinary findings alone, when considerable benefit might be obtained from their use.

DR. PAUL D. CAMP, Richmond: Quite a few years ago, while visiting at the University of Michigan, I was again reminded by Dr. Newburgh of the physiological processes involved in the excretion of ammonia by the kidneys and the advantages of the intermittent administration of ammonium chloride. Since that time I have been using in private practice, as well as at the cardiac clinic at the Medical College of Virginia, this method of administration of ammonium chloride. I do not have any statistics but only my clinical impression. I feel that these patients have benefited quite a bit by that and have done better than on the continuous administration of ammonium chloride. On the days in which the ammonium chloride is not administered, say three or four days out of the week, I take advantage of the opportunity—I believe with good results—to give the patient one of the xanthin derivatives, aminophyllin or whatever else you prefer, on the three days you are not giving ammonium chloride. I believe this helps. As is well known, there is a better diuretic effect when the xanthins are alternated also.

One other point. If these patients have to have a mercurial diuretic, always plan so they will have an injection of the mercurial diuretic on the second day of the administration of the ammonium chloride. That keeps them from getting mixed up and gives better results.

I want to say again that I have enjoyed Dr. Crutchfield's paper.

TIC DOULOUREUX: REVIEW OF 200 CASES TREATED BY SURGERY*

CLAUDE C. COLEMAN, M.D.,
JOHN M. MEREDITH, M.D.,
and
CHARLES E. TROLAND, M.D.,
Richmond, Virginia.

Medical history reveals that from ancient times a host of people have suffered from attacks of excruciating facial pain, first called tic douloureux by Nicolous André in 1756. The typical nature of the pain has made the diagnosis of this condition exceedingly simple and the surgical treatment has reached a high degree of excellence. In spite of these facts, there are few conditions that are so frequently misdiagnosed or about which so many misconceptions exist as to the results of surgical treatment. The purpose of the present report is to direct attention to the relative ease of diagnosis of tic douloureux and the efficacy of surgical therapy by analyzing a series of cases operated upon in the clinic of the senior author. Over six hundred cases were operated upon in this clinic without a single fatality. The vast majority of these operations were carried out by the senior author and the remainder were done under his direction. Two hundred cases operated upon in one hospital from 1935 to 1945 are used for this analysis as these records are available for study.

DIAGNOSIS

There are naturally many clinical entities other than tic douloureux causing facial pain. Prominent among these are dental caries, sinus disease, neoplasms, atypical facial neuralgia and histamine cephalalgia. The pain of tic douloureux is so characteristic, however, as to permit its easy differentiation from these other conditions in almost every case. The important points in the diagnosis of tic douloureux are the paroxysmal pattern and typical flashing nature of the pain, and the ready production of a painful paroxysm by peripheral stimuli. The pain is never constant and is variously described as being stabbing, shooting, sprangling or like an electric shock. Peripheral stimuli such as talking, shaving, eating or even touching the face lightly will induce painful attacks and the great majority of patients exhibit definite "trigger zones" which are most commonly situated in the upper or lower lip or the side of the nose. Any one or all of the three branches of the fifth nerve may be involved but the lower portion of the face is most frequently affected. The frequency of involvement of the divisions of the fifth nerve in the present series of cases was a follows:

1st division alone— 4 cases	2%
2nd division alone—28 cases	14%
3rd division alone—56 cases	28%
1st and 2nd divisions—12 cases	6%
2nd and 3rd divisions—70 cases	35%
All three divisions—30 cases	15%

Another distinguishing characteristic of tic douloureux is the fact that the pain is unilateral. One of the cases in this analysis had previously been operated upon on the opposite side and the incidence of bilateral involvement is variously reported as 1% by Peet[6], 1.5% by Grant[4], and 5% by Harris[5]. In no recorded cases, however, has the pain occurred simultaneously on the two sides of the face. This fact distinguishes tic douloureux from many of the atypical or psychogenic facial pains. Either side of the face may be involved and here the pain was found to be on the right side in 122 (61%) cases and on the left side in 78 (39%) cases. This greater frequency of right-sided pain has also been reported from other large neurosurgical centers.

The two sexes are approximately equally affected by this painful affliction. In this series there were 116 (58%) females and 84 (42%) males. Although the great preponderance of cases (191-95.5%) were of the white race, the colored race was represented by 9 (4.5%) cases.

Tic douloureux is primarily a disease of the elderly but may occur in early life. The youngest case in this series was 21 years of age and the oldest 87. The age distribution in the 200 cases is shown in the following table:

3rd decade of life	7	3.5%
4th decade of life	16	8%
5th decade of life	30	15%
6th decade of life	49	24.5%
7th decade of life	57	28.5%
8th decade of life	30	15%
9th decade of life	11	5.5%

*Read before the Medical Society of Virginia at its Annual Meeting in Roanoke, October 13-15, 1947.

It is thus obvious that the vast majority of cases occur after the patients reach 50 years of age. A general impression has been gained that victims of tic pain are usually quite healthy apart from this affliction and their life expectancy is long.

Etiology

The etiology of tic douloureux remains completely unknown. A variety of theories have been advanced but none of them is completely tenable. Harris[5] strongly advocates the theory of dental sepsis as the etiological agent but this theory hardly accounts for the occurrence of pain many years after patients are completely edentulous. Dandy[3] felt that the sensory root was the seat of pathology in many cases, being impinged upon by tumors or aberrant vessels. The brain stem itself has been indicted because of the occurrence of tic pain in some patients with multiple sclerosis who at post mortem examination are found to have sclerotic plaques involving the sensory nuclei of the fifth nerve. It seems most probable that the flashing pain of tic douloureux is a symptom that may be explosively manifested by factors affecting any part of the fifth nerve from its peripheral branches to its central connections.

Treatment

The method of choice in the treatment of tic douloureux is the surgical section of the sensory root of the fifth nerve. Alcohol injection of the second or third divisions has been a frequently used method of treatment but is now reserved for atypical cases, for those patients who insist upon nonsurgical treatment, and the very rare patient who seems physically unable to undergo surgery. It has become increasingly evident that it is extremely rare to find a patient who is not physically able to undergo this type of surgery. In fact, Bucy[2] has stated that all patients can be given the benefit of operative relief of their pain. Sixty-two per cent of the cases here reported had previously been injected with relief lasting in different individuals from a few days to nine years. Medical treatment with vitamin B_1, liver extract, histamine or ferrous carbonate are mentioned only in condemnation. It seems now to be firmly established that no medicinal treatment is of the slightest value in the cure of tic douloureux. During an acute exacerbation of pain, complete quiet and the administration of phenobarbital will reduce the number of paroxysms but such treatment is, of course, only temporary.

The subtemporal approach to the sensory root was utilized in all of the cases. This method has been reported many times previously and will be only briefly outlined here. A straight incision about 6 cm. in length is made in the temporal region in the direction of the fibers of the temporal muscle. The fascia and muscle are split down to the zygomatic arch and an opening approximately 3 cm. in diameter is made in the temporal bone. The dura is then carefully elevated from the floor of the middle fossa until the foramen spinosum is reached. This foramen is plugged with cotton to control bleeding from the middle meningeal artery which is then divided. The foramen ovale is then exposed by elevating the dura anterior and medial to the foramen spinosum. The dura is elevated from the third division of the nerve and dissected away from the Gasserian ganglion. Dissection is continued back until the dura propria over the sensory and motor roots is exposed. This sheath is incised and the sensory root avulsed. It is often possible to preserve the motor root and, in indicated cases, a selective section of the sensory root can be carried out. In the present series, a partial section of this root was performed in 64 per cent of the cases.

The operation is performed with the patient in the sitting position, the head being firmly supported. Local anesthesia is used almost exclusively but is frequently supplemented with sodium pentothal during the actual section of the root.

Other surgical approaches for the relief of facial pain, such as the occipital approach of Dandy[3], the cauterization of the ganglion of Kirschner and the tractotomy of Sjoquist[7] have been proposed. It is the firm belief of the authors that the subtemporal operation above outlined is the safest and best method for the relief of the distressing pain of tic douloureux. In the hands of experienced operators the method has an extremely high degree of safety. It is also possible in the majority of cases to perform a selective section of the sensory root and thus preserve sensation to the cornea.

Results

As mentioned at the beginning of this report, there are few procedures about which more misconceptions exist than concerning the results of the surgical treatment of tic douloureux. The mortality rate from all of the major neurosurgical centers is reported as being one per cent or less. In over 600

cases operated upon by the senior author and his associates, there was not a single death. There are few, if any, surgical procedures of any type that are performed with similar records.

The most widely held erroneous belief concerning the results of the surgical treatment of tic douloureux regards the incidence of facial paralysis. Certainly the source of some of this misconception is the understandable lay belief that cutting a nerve supplying sensation to the face will necessarily paralyze the face. The erroneous ideas, however, extend to the medical profession. The facts refute the idea that facial paralysis is a major complication in the treatment of facial pain. Grant and Peet report an incidence of paralysis of 3.4% and 4%, respectively. In the present series of cases the incidence was 4%. In every case the paralysis was temporary and usually completely disappeared within a few weeks.

Keratitis occurred in 7% of the cases here reported. In all instances these cases had total section of the sensory roots. Although annoying, the keratitis is rarely of serious import. Patients with an anesthetic cornea are warned about the proper care of the eye. Rarely it is necessary to temporarily suture the lids but this is a small price to pay for relief from the excruciating pain of tic douloureux. In no instance in this series has the keratitis failed to respond to proper treatment.

Paresthesias in the portion of the face rendered anesthetic by operation occurred in 6% of these cases. The incidence of these burning or crawling sensations has been variously reported as being from five to sixteen per cent. In the vast majority of cases the paresthesias are of minor nature and eventually disappear.

From a review of the relatively rare complications following the surgical treatment of tic douloureux it seems obvious that this is one of the most successful procedures in any type of surgical practice.

BIBLIOGRAPHY

1. Borsook, H., Kremers, M. Y., and Wiggins, C. G.: *J.A.M.A.* **114**:1421-1423, 1940.
2. Bucy, P. C.: *Surg. Clin. North Am.*, February, 129-137, 1947.
3. Dandy, W. E.: *J. International Coll. Surg.* **2**:5-13, 1939.
4. Grant, F. C.: *Ann. Surg.* **107**:14-19, 1938.
5. Harris, W.: *Brain* **63**:209-224, 1940.
6. Peet, M.: Lewis' Practice of Surg. **12**:26-53, 1935.
7. Sjoquist, O.: *Acta Psychiat. et Neurol. Suppl.* **17**:139.
8. Coleman, C. C.: *West Va. Med. J.* **39**:1-24, 1943.

Floral Eponym.

MERATIA

MÉRAT, FRANCOIS VICTOR, 1780-1851

Mérat, a pupil of Corvisart, was *chef de clinique de la Faculté de Médecine de Paris.* He is best known medically as the author of a collection of little dicta which have been called the "Aphorisms of Corvisart".

Meratia is a genus of Chinese deciduous or evergreen shrubs of the family Calycanthaceae. M. Praecox is noted for its fragrance. It blooms nearly all the winter in the South as far North as Richmond.

STREPTOMYCIN IN THE TREATMENT OF DRAINING TUBERCULOUS SINUSES*

WALTER L. NALLS, M.D.,
and
RALPH E. MOYER, M.D.,
Oteen, North Carolina.

The use of streptomycin in the treatment of human tuberculosis has received considerable attention recently. At present an extensive study of this subject is in progress in various Veterans Administration Hospitals. It has been demonstrated that one of the most impressive results in the treatment of tuberculosis in man has been attained following the use of this drug in draining tuberculous sinuses.

Streptomycin was made available for this study at this hospital in July, 1946. The original report by Brock[1] included 12 cases in which treatment was started on nine in July, and on three in September, 1946. Since that time we have had the opportunity to observe the effect of streptomycin therapy in an additional 30 patients with draining tuberculous sinuses. The purpose of this communication is to review the results in this group of patients some of whom were treated on a reduced dosage regimen. Our experience substantiates the previously reported excellent results.

Under the old regimen, 1.8 gm. of streptomycin was given intramuscularly daily in six doses of 0.3 gm. A total of 23 cases was treated on this schedule. The results were gratifying, and since certain toxic manifestations were regularly observed, it was decided to reduce the dose of the drug in June, 1947. Since that time an additional 19 cases have been treated. On the new regimen these latter patients have received 0.2 gm. intramuscularly every four hours for five doses, or a total daily dose of 1.0 gm.

Of the original group of 23 cases treated with the larger dosage, 19 were negro and four were white. In 15 of these the draining sinuses originated in bone or cartilage. Three were from tuberculous glands and two developed after removal of a tuberculous epididymis. In one patient a sinus developed following laparotomy for a tuberculous appendix and another had several perineal sinuses in the ischiorectal area. One patient had a sinus following a pericardectomy for a purulent tuberculous pericarditis. Of the 19 patients treated with 1.0 gm. of streptomycin daily, 11 were white and eight were negro. In seven the sinuses originated about the rectum; six were from bone (or cartilage), four followed epididymectomy, and two were in the chest wall following thoracoplasty.

In many instances multiple sinuses were present, and some patients had sinuses in several areas. Of the 42 patients treated under both regimens, a total of 250 draining sinuses was observed. All of these were of proved tuberculous etiology, either by culture of material from the sinus tract or by biopsy of the wall of the sinus.

TOXICITY AND MANAGEMENT

Local pain at the site of injection may become bothersome. Rotation of the points of injection is advisable, and the upper and outer quadrants of the buttocks have proved to be the best site for the injections.

Two reactions may necessitate the cessation of streptomycin treatment after appropriate investigation—onset of loss of hearing as evidenced by a reduction in audiometric readings; kidney damage which may progress and produce irreversible changes. Whenever the presence of albumin, granular or hyaline casts or increased numbers of red and white blood cells in the urine are noted, continuation of therapy is possible, but frequent repetition of function tests, assay of blood concentrations and urinalyses are in order. Streptomycin should be discontinued whenever an appreciable loss of kidney function, an elevation of blood urea nitrogen or retention of streptomycin (above 50 micrograms/cc.) in the blood serum are observed.

Two rare complications necessitate the immediate cessation of streptomycin treatment. Exfoliative dermatitis with or without anaphylactic shock and fever may occur, usually within the first month. Bone marrow depression may occur as evidenced by

*From the Department of Medicine and Surgery, Veterans Administration, Oteen, North Carolina. Published with permission of the Chief Medical Officer, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the authors.

a reduction in peripheral circulating granulocytes, particularly stab forms, erythrocytes or platelets.

Two complications—vertigo and eosinophilia—do not require cessation of treatment but do demand careful clinical and laboratory observation. Eosinophilia with or without cutaneous eruption will occur. The eosinophilia may reach a level of 25 per cent and in itself is unimportant. A maculopapular rash may appear for short periods of time. If the rash is pruritic, 50 mgms. of benadryl, one to four times daily, will control the symptoms.

Under the old regimen of 1.8 gm. daily, an eosinophilia of more than 5 per cent occurred in a number of cases, usually after the first week of therapy, and persisted for periods ranging from a few days to several weeks. Varying numbers of hyaline casts appeared in the urine of all patients at some time during treatment. Repeated blood urea nitrogen determinations and urea clearance tests remained normal during and after the period of treatment in all cases. Likewise, no indication of liver damage was encountered.

The most common toxic manifestation noted under the old regimen resulted from damage to the vestibular apparatus. A syndrome characterized by dizziness, ataxia and blurred vision occurred often in the fourth week of treatment. These symptoms varied in severity from an occasional mild sensation of dizziness to a severe vertigo associated with all movements. In the latter case a temporary though definite incapacity resulted. A modification of the Barany caloric stimulation procedure was employed to evaluate vestibular function, and in all cases a definite diminution in the response of the internal ear to caloric stimulation was noted. In a few instances the hypo-irritable labyrinth progressed to a dead labyrinth. It was not considered an indication for discontinuance of therapy, however, and in most cases the symptoms as experienced by the patient lessened and in time disappeared. Presumably the individual employed his visual and proprioceptive senses to compensate for this diminution in labyrinthine function, but some difficulty in locomotion in the dark persisted. Just how serious a disability this will impose upon the individual upon his return to life outside the hospital is the subject of much discussion and conjecture. It has not proved important to his adjustment in the hos-

TUBERCULOUS SINUS CASES OLD REGIMEN 1.8 GRAMS DAILY

Source of Sinus	Number Cases		Number Operated or I and D	Length of Treatment	Number Healed	Number Improved	Number Unchanged
	White	Colored					
Bone	1	14	12	3 to 8 mo.	14		1
Rectum		1	1	3 mo.	1		
Epididymis	2		2	3 mo.	2		
Glandular		3	1	3 mo.	2		1
Abdomen (P. O.)	1		1	3 mo.	1		
Heart Tbc. Pericarditis		1	1	3 mo.	1		
Total	23		18	3 to 8 mo.	21		2

TUBERCULOUS SINUS CASES NEW REGIMEN ONE GRAM DAILY

Source of Sinus	Number Cases		Number Operated or I and D	Length of Treatment	Number Healed	Number Improved	Number Unchanged
	White	Colored					
Bone	1	5	6	6 wk. to 3 mo.	3	3	
Rectum	5	2	5	2 to 3 mo.	5	2	
Epididymis	4		3	2 to 3 mo.	3	1	
Chest—Empyema and Thoracoplasty	1	1	2	1 mo.		2	
Total	19		16	1 to 3 mo.	11	8	

pital, but it seems that it might contraindicate certain occupations. Development of deafness was not observed in any case.

Under the new regimen of 1.0 gm. daily, toxic manifestations in general were fewer and much less severe. A mild degree of eosinophilia occurred late in several cases. The presence of casts and albumin in the urine was not observed in any instance. A mild vertigo occurred in a few cases but in some of these this symptom was questionable. In three cases, however, there was objective evidence of some involvement of the vestibular apparatus. These patients developed some hypo-irritability of the labyrinth upon caloric stimulation studies. In one case treatment was discontinued because of an exfoliative dermatitis which developed during the sixth week of treatment. This gradually cleared under treatment with benadryl.

RESULTS

The rapid subjective improvement in practically all patients in the series was noteworthy. The appetite uniformly improved and many remarked upon a returned sense of well-being. Concomitant with this an increase in weight was noted in the majority of cases, averaging 15 pounds. One patient's weight increased 48 pounds during the period of treatment. Elevated temperatures promptly returned to normal and remained so.

We have been impressed by the fact that closure of the sinus is more prompt when free drainage is present. If small abscesses exist beneath the skin and the sinus is not draining adequately, the area should be incised and the pus evacuated. Large cold abscesses existing in conjunction with tuberculosis of the vertebrae should be incised and drained. Necrotic bone or cartilage, as in rib or sternum, should be removed and adequate drainage established. These procedures should be completed before instituting streptomycin therapy.

The promptness of the healing following initiation of treatment is one of the outstanding findings in this series. Within three or four days of treatment the purulent material draining from the sinuses became smaller in amount and less purulent. Many sinuses of several years' duration began to close within a week or ten days.

Under the old regimen, 23 patients were treated and 18 were operated upon or had incision and drainage before therapy with streptomycin. The average duration of treatment in this group was three months. In one case treatment was continued for eight months and in one, for five months before closure of all sinuses occurred. Twenty-one patients have had closure of all their sinuses, and sinuses have remained closed following termination of therapy for an observation period of from seven to 12 months. Two cases were listed as unchanged under therapy. One patient had three draining sinuses, two of which closed and one remained open. This patient had a progressive pulmonary lesion and died several months after the institution of streptomycin therapy. The other patient was a negro girl with sinuses originating from tuberculous cervical lymph glands. Treatment should have been continued, but the patient refused because of pain experienced at the site of the injections.

A typical example of the excellent results attained with streptomycin is that of a young negro (E. S.) who had a total of 28 draining sinuses. Multiple sinuses originated from ribs and cartilage, left radius, both tibiae and both scapulae. All sinuses closed and healed except one on the anterior chest wall. Following removal of the right anterior sixth rib and cartilage, the sinus closed and all sinuses since that procedure have remained closed and healed. This patient made a remarkable recovery, gaining 48 pounds in weight.

Under the new regimen, 19 patients were treated and 16 of these were operated upon or had incision and drainage before institution of the streptomycin therapy. Seven were started on streptomycin treatment in June, 1947, four in July, six in August, and one in September. The average length of time of treatment in this series to date is one to three months. Eleven cases show complete closure of all sinuses. Eight patients are listed as improved with all sinuses rapidly closing. One patient developed an exfoliative dermatitis after six weeks and treatment was discontinued. Drainage had ceased after two weeks and the sinus was closing rapidly. This is the only case in the entire series requiring discontinuance of treatment due to toxicity from the streptomycin.

SUMMARY

Streptomycin has produced dramatic results in the treatment and healing of draining tuberculous sinuses. Twenty-three patients were treated under the old regimen. Twenty-one have had complete

closure of all their sinuses, and they have remained closed following termination of therapy for an observation period of from seven to 12 months.

Nineteen patients have been treated or are under treatment with the new regimen. Eleven have had complete closure of all their sinuses and in eight the sinuses are rapidly closing.

One of the major problems in this study was the determination of the correct dosage. With the reduced dosage under the new regimen, the same results are being attained with a marked reduction or complete absence of the toxicity noted under the old regimen. Recent sensitivity studies have revealed that under the reduced dosage, resistance of the tubercle bacilli to streptomycin does not develop as often or as quickly as under the old regimen. It has also been determined that under the reduced dosage, treatment given twice daily which secures a higher streptomycin blood level peak, produces less resistance than the more frequent treatment of five injections daily with a smaller streptomycin blood level peak. With this information, the treatment routine advised at present is one gram daily, 0.5 gm. twice daily, 12 hours apart, intramuscularly; duration of treatment for 30 days after healing has taken place or for a total of 120 days, whichever is shorter.

It is expected that under this regimen resistance will be reduced, toxicity markedly delayed, diminished or eliminated and the same excellent results attained.

REFERENCE

1. Brock, B. L.: Streptomycin in the Treatment of Draining Tuberculous Sinuses, *J.A.M.A.* **135**:147-149, September 20, 1947.

New Books.

Among the new books recently acquired by the Library of the Medical College of Virginia are the following which may be borrowed by our readers under usual library rules:

Bailey—Demonstrations of physical signs in clinical surgery.
Bancroft—Surgical treatment of the soft tissues.
Barach—Physical therapy in respiratory diseases.
Beckman—Treatment in general practice. 6th ed.
Brunschwig—Radical surgery in advanced abdominal cancer.
Buckstein—The digestive tract in roentgenology.
Christopher—Minor surgery. 6th ed.
Ciba Pharm. Co.—Male hormone therapy.
Clarke, *et al.*—The use of isotopes in biology and medicine.
Cox—Atlas of practical incisions and some operative procedures.
Crossen—Operative gynecology. 6th ed.
Dandy—Surgery of the brain.
Dunbar—Emotions and bodily changes. 3rd ed.
Edwards—Synopsis of general anatomy.
Foot—Identification of tumors.
Goldberger—Unipolar lead in electrocardiography.
Hinshaw—Take up thy bed and walk.
Hoff—A bibliographical sourcebook of compressed air, diving and submarine medicine.
Hooten—Up from the ape.
McBride—Disability evaluation. 4th ed.
Novak—Textbook of gynecology. 3rd ed
Novak—The woman asks the doctor.
Noyes—Modern clinical psychiatry. 3rd ed.
Purves-Stewart—The diagnosis of nervous diseases. 9th ed.
Roberts—Chronic structural low backache due to lowback structural derangement.
Symposium in the use of isotopes in biology and medicine.
Todd and Sanford—Clinical laboratory diagnosis. 11th ed.
Walton—Control of pain with saddle back and higher spinal anesthesia.
Winton and Bayliss—Human physiology. 3rd ed.
Wolberg—Hypnoanalysis.
Wolf—Ear, nose and throat.
Wolff—Anatomy of the eye and orbit.
Wolff—Headache and other head pain.
Zahorsky—Synopsis of pediatrics.

THE CLINICAL SIGNIFICANCE OF THE RH FACTOR*

W. C. WINN, M.D.,
Richmond, Virginia.

The Rh factor is not a disease or the "Blood that kills", as many of the laity have been led to believe. It is an antigen normally found in the red blood cells of 85 per cent of the random white population, similar to the A and B factors which make up the four main groups of the international blood group classification with which you are already familiar.

Our greatest problem with the Rh factor recently has been in alleviating unwarranted fears in patients caused by articles in lay magazines. It is most important for every physician to understand the significance of the Rh factor so that he may dispel the patient's fears and at the same time protect her against disaster which may be caused by Rh incompatibilities.

Rh factor is an *antigen* or *agglutinogen,* just as the A and B factor, and is found in the red blood cells. When the patient's red cells contain the factor, the patient is Rh positive. If the red cells do not have the factor, the patient is Rh negative.

The *antibodies* or *agglutinins* built up against these antigens are in the serum.

When the blood of a donor whose red cells contain the agglutinogen, Rh factor, is mixed with blood of a patient whose plasma contains a specific antibody or agglutinin for the Rh factor, a demonstrable reaction, agglutination of the donor's red cells, is produced. Under two conditions plasma will develop anti-Rh agglutinins or Rh antibodies:

1. Following repeated transfusions of blood from Rh positive donors into Rh negative recipients, or
2. In some pregnancies where the mother is Rh negative and the father Rh positive, the mechanism of these reactions is illustrated as follows:

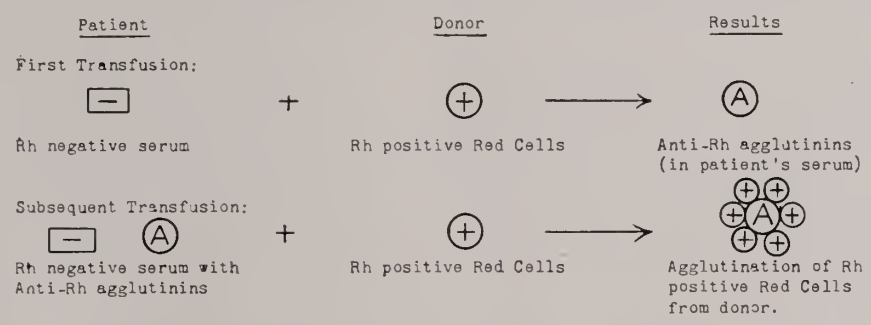


Figure 1. Mechanism causing transfusion reaction in Rh negative patients.

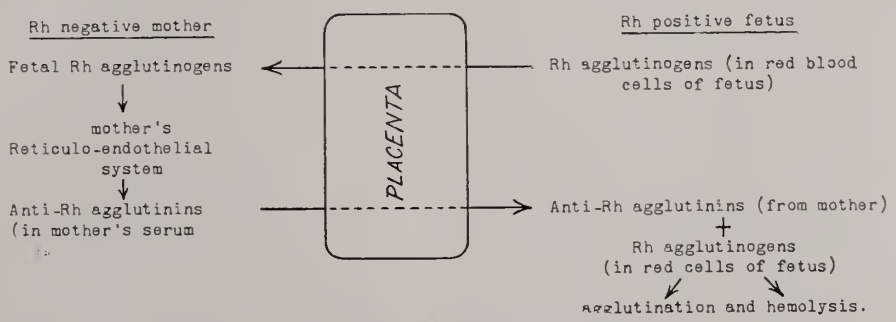


Figure 2. Mechanism causing Erythroblastosis.

(The two slides† illustrate mechanism of reaction.)

When the mother is Rh negative and the father Rh positive, the baby is affected by the incompatibility only approximately one in fifty cases. The baby is affected with that frequency, not with first or second, but usually third or fourth pregnancy, or later. The low incidence of erythroblastosis is explained by the following factors:

*Read before the Medical Society of Virginia at its annual meeting in Roanoke, October 14, 1947.

†Diagrams from article in Lahey Clinic Bulletin, March, 1944. "Significance of the Rh Factor" by Dr. Jno. W. Norcross, Boston, Mass.

1. Only 15% of population is Rh negative.
2. Husband may also be Rh negative.
3. Husband may be heterozygous.
4. Women vary in ability to produce antibodies, as in infectious disease.

If the patient who is Rh negative is inadvertently given a transfusion with Rh positive blood earlier in life, however, she may be sensitized to the Rh factor by the transfusion. With the Rh antibodies present at the onset of her first pregnancy, her chances of having any living healthy children may be endangered.

By the same token, an Rh negative patient may be sensitized to the Rh factor by pregnancies. Then at some later date, months or years later, when she is inadvertently given a transfusion with Rh positive blood, she may get a severe or even fatal reaction from the first transfusion.

Routine Rh studies done during the prenatal period are as follows:

1. Rh type all prenatals on first visit.
2. If patient is Rh negative, Rh type husband.
3. If husband is Rh positive and patient Rh negative, examine patient's serum for Rh antibodies 3 or 4 weeks prior to term.
4. If antibodies are present, check the titre at later date to guide prognosis and treatment for baby.

In conclusion, *it is important* that:

1. No girl or woman should be transfused, regardless of age or indication, without having Rh typing done.
2. All Rh negative patients should be transfused with only Rh negative blood.
3. If a patient, being transfused without Rh typing, should have a chill, or jaundice, carry out Rh tests before another transfusion is given.
4. Hospitals and blood banks should either store Rh negative blood or have a list of normal Rh negative donors available for emergencies.
5. All prenatals should have Rh typing done as a routine procedure when possible.
6. When prenatal patients are Rh negative, blood should be checked during the last trimester for presence of anti-Rh agglutinins.
7. In transfusion of erythroblastotic infants, Rh negative blood should be used.
8. Because experience has shown that there is a fall in titre of anti-Rh agglutinins with the lapse of time, Rh negative mothers should be cautioned against pregnancies in rapid succession.
9. An Rh negative mother should be warned of the dangers of subsequent transfusions by donors who have not been proved Rh negative.
10. Present knowledge indicates that abortions are not due to Rh incompatibilities.
11. Rh negative patient with Rh positive husband can have normal pregnancies.
12. Rh positive transfusion to Rh negative girl jeopardizes her future pregnancies.
13. Knowledge and practical application of information about Rh factor is of vital importance, not only to obstetrician and pediatrician, but to all who practice medicine and use blood transfusions.

816 West Franklin Street

REFERENCES

Potter, Edith L.: Rh Yearbook Publishers, Chicago, 1947.

Potter, Edith L.: The Rh Factor in Obstetrics, *Med. Clinics of N. A.* **28**:254-266, January, 1944.

Levine, Philip: Recent Developments in Iso-Immunization by the Rh Factor. *Amer. J. Ob. and Gyn.* **49**: 810-814, 1945.

German, William McKee: *Ky. Med. Jour.* **42**:167 (June), 1944.

Socks, Milton S.; Kuhns, William J., and John, Elso F.: Studies in Rh-Iso-Immunization in Pregnancy. (From Baltimore Rh Typing Laboratory and Dept. of Medicine, U. of Maryland School of Medicine), *Amer. J. Ob. and Gyn.* **54**:400-414, September, 1947.

Norcross, J. W.: The Significance of the Rh Factor. *Lahey Clinic Bulletin* **3**:212-216, 1944.

NOTE.—Discussed with Dr. Kendig's paper which follows.

HEMOLYTIC ANEMIA IN THE NEWBORN*

EDWIN L. KENDIG, JR., M.D.,
Richmond, Virginia.

During the past few years much has been written about the Rh factor. The literature accumulated dealing with one of its chief related problems, i.e., hemolytic anemia in the newborn, has come almost entirely from large hospital newborn services. Little has been written about the problem as it occurs in private practice.

The following 32 cases were all private patients. Of these, 29 were of the usual setup, with the father Rh positive, the mother Rh negative and the baby Rh positive. One case was the so-called Rh_z and 2 cases were of undetermined origin, even though thoroughly studied from the standpoint of the Rh factor, group incompatibility, etc. They belong in that group described by Broman[1].

History of the mother's previous pregnancies, the demonstration of circulating antibodies in the mother's blood, and the appearance of jaundice during the newborn period were useful in the diagnosis, but it must be stated that the excellent prenatal care by obstetricians, who often knew of impending trouble, was most helpful. The presence of erythroblasts in the infants blood smear did not prove to be of great help in this series, in that some of the most severe cases did not originally show an abnormal number of erythroblasts.

Briefly, among the 29 Rh negative mothers of children with hemolytic anemia, 27 had a history of previous pregnancies, and 10 of these had more than one pregnancy. Included in these previous pregnancies were 5 stillbirths and 7 infants who died during the neonatal period.

Anti-Rh agglutinins or blocking antibodies were demonstrated in the mother's blood in 21 instances. In 4 cases no test was made, but these, as well as those 4 cases in which no antibodies were demonstrated, were instances of the usual Rh setup with rather marked blood destruction in the baby.

It should be noted that antibody titers in the mother, while helpful, are misleading, and are not to be interpreted as being necessarily indicative of the severity of the erythroblastosis in the infant.

As expected, there were all gradations of severity. There were 2 deaths and one of these was one of twins. The other twin was a hydrops, and this one, jaundiced deeply and weighing only 4½ pounds, lived about 14 hours. This baby received one transfusion of Rh negative blood to no avail. It is interesting to note that no anti-Rh antibodies could be demonstrated in the mother's blood as late as one week prior to delivery. Later re-check showed the presence of blocking antibodies.

The other death occurred in an erythroblastotic newborn who was apparently progressing nicely. The mother had 3 previous pregnancies and there was one living child. This baby was transfused immediately after delivery and the next day the red blood cell count was 3,500,000. The baby was transfused again. On the next day (third day of life) the red blood cell count was 4,500,000, and the baby appeared to be in good condition. About 18 hours later the child vomited 15 cc. bright red blood, and died a few hours thereafter.

On follow-up, the one living case of kernicterus is both mentally and physically retarded. This child was first seen at 5 days of age with marked jaundice and red blood cells 1,800,000. He was given 7 transfusions of Rh negative blood. Since kernicterus is not considered to be related to the degree of anemia, it is doubtful whether earlier transfusion would have given a better result.

The management of hemolytic anemia in the newborn is ever-changing. Multiple transfusions of Rh negative blood still constitute the most widely accepted therapy. Potter[2] suggests that after the first week of life, transfusions may be withheld until the red blood cell count is about 2,500,000, but this criterion is not a safe one during the first week. Mayes[3] has suggested that every baby, whose mother has been demonstrated to have anti-Rh agglutinins in her blood, should be given a transfusion of Rh negative blood into the umbilical vein at birth.

Diamond[4] and others recommend the so-called exsanguination transfusion, and he (Diamond) feels that its use has definitely lowered the mortality in his series.

Our course has varied with the trend. Whenever the mother has already had an erythroblastic baby or has anti-Rh agglutinins demonstrated in her blood prior to delivery, we are prepared to transfuse immediately after delivery. Whenever

From the Department of Pediatrics, Medical College of Virginia, Richmond, Virginia.

*Read before the Medical Society of Virginia at its Annual Meeting in Roanoke, October 14, 1947.

laboratory studies show that blood destruction begins to occur in any of these Rh positive babies of Rh negative mothers, an initial transfusion of Rh negative blood is given. We then wait to see if the destruction will be great enough to warrant further blood replacement and govern our course accordingly, using 3,000,000 red blood cells as an elastic base line after the first week.

Three babies in this series received a cord vein transfusion at delivery. Another was attempted, but was not successful and the blood was given into a scalp vein. One of these transfused via the cord vein was the first-born of an Rh negative mother who had been transfused on 2 previous occasions, and had anti-Rh agglutinins demonstrated in her blood a few weeks before term. Cord blood from the baby showed anti-Rh agglutinins in a titer of 1 to 16, but the child progressed normally and required no more transfusions.

SUMMARY

Thirty-two cases of hemolytic anemia in the newborn are reported. The diagnosis and management are discussed.

REFERENCES

1. Broman, Birger: Symposium on Incompatibility of Blood, Fifth International Pediatric Congress, New York, July, 1947.
2. Potter, Edith L.: Rh. Year Book Publishers, Inc., Chicago, 1946, p. 210.
3. Mayes, H. W.: Cord Transfusions in Newborn Infants. *Journal Pediatrics* **28**:69, January, 1946.
4. Diamond, L. K.: Address before American Pediatric Society, Stockbridge, Massachusetts, April, 1947.

414 West Franklin Street.

DISCUSSION OF PAPERS BY DRS. WINN AND KENDIG

DR. J. H. SCHERER, Richmond: Drs. Winn and Kendig have so completely covered the clinical aspects of erythroblastosis or congenital anemia that I am left with very little to discuss. As Dr. Winn brought out, more than one in thirty women are sensitized by pregnancy. Not yet completely understood is the fact that transfusion of blood from a Rh-positive donor sensitizes approximately one in two negative individuals. One sees the enormous importance of bringing to medicine and surgery and obstetrics the fact that all women and all children must be typed for the Rh factor and given only Rh-negative blood. More and more frequently we are seeing even a first-born denied a woman because of a transfusion given her ten, fifteen, twenty or more years before. It is fundamental that we try never to give an Rh-negative individual Rh-positive blood, particularly in the case of female infants and females in the child bearing age.

We think that all pregnant women should be tested at their first visit, and if there is a history of transfusion or abortion or previous pregnancy, they should be titred at their first visit to see at that point what is being carried over from past events. Then, as Dr. Winn pointed out, they should be titred from the seventh month on to watch the progress of the present pregnancy, and steps should be taken to treat according to the antibody titre. Unfortunately, up to the present time antibody titrations have not meant a great deal because there is a vast difference in technique. For instance, laboratories using plasma or bovine albumin or using serum will each get different results. Fortunately, there is now being offered a program which will standardize these titrations, and from now on you should be able to tell something from the results of titration.

Next, I want to point out that Rh-negative donors are potentially dangerous. I think every hospital chart should have printed on it, as the first question: Have you ever had a transfusion? Any Rh-negative donor who has previously had any transfusion or pregnancy could be a dangerous donor for an erythroblastotic child or for an Rh-positive individual. We should therefore ask this question and never use an Rh-negative donor with anti-Rh antibodies for an erythroblastotic child or an Rh-positive individual.

MR. ROBERT WALLER, Richmond: During the very interesting papers of Dr. Winn and Dr. Kendig I have made a few notes which may be of interest to you. Firstly, I should like to point out that even abortions may start immunization in women, that is, even early abortions.

Recently we have taken ten Rh-negative male volunteers at the penitentiary, and injected them intravenously with Rh-positive blood. Four of these men have shown the presence of antibodies after a single injection despite the fact that none had received previously blood in any form. After multiple injections eight out of ten produced antibodies. The total amount of blood injected did not exceed five cc.

Drs. Winn and Kendig mentioned to you agglutinins and blocking antibodies. In addition, British authors some time ago described a third method of demonstrating the presence of antibodies by means of an anti-human precipitin serum. I think that this method will not only demonstrate all antibodies present, but also their full extent.

Occasionally you will run into a case in which you cannot demonstrate either agglutinins or blocking antibodies, but will be able to demonstrate sensitization by means of the precipitin technique. I think you should therefore require that this technique be used by the laboratory you deal with, in addition to the other methods for demonstrating Rh sensitizations.

Secondly, I think that all pregnant women should be tested at the very beginning of their pregnancy and not solely during the last trimester, as is done so frequently.

Thirdly, I would like to point out that the precipitin technique may prove to be very valuable in determining whether or not an erythroblastotic infant will need additional transfusions, because as long as any antibodies are attached to the baby's cells the precipitin reaction will be positive and further hemolysis can be expected.

SULFADIAZINE IN THE TREATMENT OF MENINGOCOCCIC MENINGITIS: A STUDY OF SIXTY CASES WITHOUT A DEATH

SIDNEY G. PAGE, JR., M.D.,
and
M. JANE PAGE, M.D.,
Richmond, Virginia.

Many authors report that sulfadiazine is the drug of choice in the treatment of meningococcic meningitis[1-11], and streptococcic meningitis[12], while penicillin is conceded to be superior in the treatment of staphylococcal and pneumococcal meningitis[12]. Sulfadiazine is also employed in the meningococcic meningitis[13] and its carrier states[14].

Meads *et al.*[15] found sulfadiazine superior to penicillin in several respects; clinical response to penicillin is slower than that to the sulfonamides; abnormal spinal fluid, chemical and bacteriological findings persist longer; there may be recurrences; the meningococcus-carrier state may persist; the treatment is difficult, and, finally, one may eventually have to resort to the sulfonamides for cure.

Another disadvantage of penicillin, when used intrathecally, is its effect in producing pleocytosis[16-17] of the spinal fluid, thus making difficult the evaluation of the therapeutic effect of the penicillin. However, as greater purity of the pencillin has been attained, the reaction of pleocytosis has been noted less frequently.

Other complications resulting from the intrathecal, intracisternal and intraventricular administration of penicillin have been reported[18] which include adhesive spinal arachnoiditis and transverse myelopathies. It is only fair to point out, however, that in the majority of the cases showing these complications relatively concentrated solutions (5,000 to 50,000 units per cubic centimeter)[18-19] were used instead of dilutions of 1,000 units per cubic centimeter or less, as recommended by the committee of the National Research Council.

The important factors in the production of toxic complications by the intrathecal use of pencillin are:

1. Concentration of penicillin solution.
2. Slow diffusion of spinal fluid.
3. Size of individual doses.
4. Frequency of injection.
5. Duration of intraspinal therapy.

Thus, the occurrence of these complications may be minimized by using a dilute solution of penicillin, avoiding the use of a large total dosage, and by limiting the number of injections to a minimum.

The following report of 60 consecutive cases of meningitis admitted to a Station Hospital between December 23, 1942, and June 14, 1945, is offered as additional evidence of the efficacy of sulfadiazine in the treatment of this disease. Forty-eight cases (80%) were proven to be meningococcic by either smear or culture of the spinal fluid, or by blood culture. Twelve cases (20%), while not proven bacteriologically, did fulfill clinical criteria of headache, nuchal rigidity, vomiting, fever, and pleocytosis of the spinal fluid. Five cases were considered mild, 28 of moderate severity, while 27 were severe (14 of which were admitted to the hospital in coma).

There were 43 white and 17 colored in the series with an average age of 26 years. Fifty-nine were males and one was a female. Fifty-eight were soldiers and two were civilians.

Epidemiology. The cases in this series were endemic (see Chart I), seven being the largest number occurring in any single thirty-day period (April, 1943). The seasonal variation is evident (39 or 65% of the 60 cases occurring during the months of January, February, March, and April).

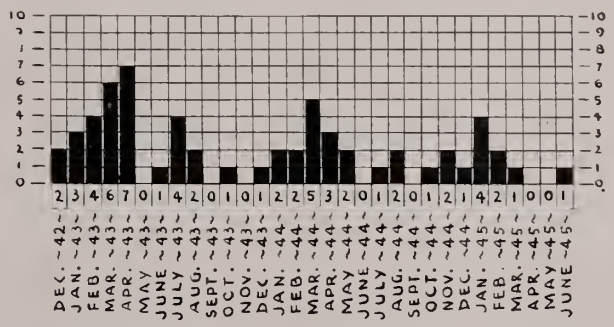


CHART I

No data are available concerning the predisposing factors of over-crowding in barracks or fatigue, but the average service in months was 14, although 32 (55%) of the soldiers had 6 months or less Army service.

Signs and Symptoms on Admission. The admission temperatures averaged 99.6°, with highest of 104° and lowest of 98.4°.

Although only 53 of the cases had fever on admission, all cases had temperature elevations at some time during their hospital stay.

Admission pulse rates averaged 97.2 per minute, with the highest 148 and lowest 68.

Admission respiratory rates averaged 23.2, with highest of 44 and lowest of 18. The tendency toward tachypnea noted in this series (36 out of 60 cases with admission respiratory rates above 20 per min.) is in agreement with Denny *et al.*,[3] who found an increased respiratory rate out of proportion to the temperature elevation in 53 of his 61 cases.

Chart II lists the signs and symptoms noted on admission, in order of their frequency. Nuchal rigidity was noted in 88% of the cases. Eighty-seven per cent complained of severe headache, while 65% demonstrated a positive Kernig's sign. Chills were noted in 60% and vomiting in 53%.

CHART II

SIGNS AND SYMPTOMS ON ADMISSION

Fever	88%	(53 out of 60 cases)
Nuchal Rigidity	88%	(53 out of 60 cases)
Headache	87%	(52 out of 60 cases)
Kernig	65%	(39 out of 60 cases)
Chills	60%	(36 out of 60 cases)
Vomiting	53%	(32 out of 60 cases)
Petechial Rash	43%	(26 out of 60 cases)
Myalgia	42%	(25 out of 60 cases)
Brudzinski	30%	(18 out of 60 cases)
Malaise	25%	(15 out of 60 cases)
Nausea	25%	(15 out of 60 cases)
Coma	23%	(14 out of 60 cases)
Preceding Upper Respiratory Infection	20%	(12 out of 60 cases)
Sore Throat	18%	(11 out of 60 cases)
Arthralgia	17%	(10 out of 60 cases)
Drowsiness	15%	(9 out of 60 cases)
Babinski	10%	(6 out of 60 cases)
Weakness	10%	(6 out of 60 cases)
Restlessness	8%	(5 out of 60 cases)
Confusion	7%	(4 out of 60 cases)
Delirium	7%	(4 out of 60 cases)
Lethargy	7%	(4 out of 60 cases)

Laboratory Data. Possible sources of diagnostic assistance include specimens for culture from the nasopharynx, blood, and spinal fluid. Petechial smear and culture, as well as direct blood examination for organisms are also valuable.

Bacteriologic study in this series did not include nasopharyngeal cultures on admission, but in some cases they were performed at completion of therapy. Since Tompkins[20], as well as McLean and Caffey[21], obtained positive petechial smears in 80% of meningococcemia cases, it would seem that this procedure should be included as routine in each suspected case. We, like many others, were not appreciative of the tremendous value of the stained smear and culture of blood from the purpuric lesions of meningococcic septicemia until rather late in our series, and thus petechial smears were studied in only three cases with negative results.

Observations of the character of the spinal fluid in 36 cases on admission revealed cloudy appearance in 31, while 5 were clear. The average spinal fluid W.B.C. was 5,498, the highest being 27,000 and lowest zero. In several instances clear spinal fluid with low white blood cell counts were noted at the time of the initial lumbar puncture, but spinal fluid obtained 6-8 hours later was found to be cloudy with marked pleocytosis in spite of the institution of intravenous sulfadiazine at the time of the initial lumbar puncture.

In nine instances positive cultures of the spinal fluid were obtained when the spinal fluid smears

48 CASES OF MENINGOCOCCIC MENINGITIS

NUMBER OF CASES	8	2	3	15	3	1	1	4	2	5	1	1	1	1
SPINAL FLUID CULTURE	+	+	+	+	−	+	−	+	−	+	+	+	O	−
BLOOD CULTURE	+	+	−	−	−	+	+	O	+	−	O	O	−	+
SPINAL FLUID SMEAR	+	−	−	+	+	O	−	−	O	O	O	+	+	+
PERCENTAGE	16.7	4.2	6.3	31.2	6.3	2.1	2.1	8.3	4.2	10.4	2.1	2.1	2.1	2.1

SPINAL FLUID CULTURE: 40 POSITIVE, 7 NEGATIVE, 1 NOT DONE 85.1%
BLOOD CULTURE: 15 POSITIVE, 27 NEGATIVE, 6 NOT DONE 35.7%
SPINAL FLUID SMEAR: 29 POSITIVE, 10 NEGATIVE, 9 NOT DONE 74.3%

NUMBER OF CASES	APPROX. PERCENTAGE	SPINAL FLUID SMEAR	SPINAL CULTURE
24	50 %	+	+
4	8.3%	+	−
9	18.75%	−	+
1	2.1%	−	−
7	14.7%	O	+
2	4.2%	O	−
1	2.1%	+	O

+ = POSITIVE
− = NEGATIVE
O = NOT DONE

CHART III

were negative. This re-emphasizes the importance of routinely culturing the spinal fluid in spite of a failure to find organisms on smear.

Of the 60 cases, 48 were proven to be meningococcic meningitis by either one or more of the following positive tests:—spinal fluid smear, spinal fluid culture and, or, blood culture (Chart III), but in the remaining 12, the causative organism was not found (Chart IV). A possible reason for the failure to isolate the causative organism in these 12 clinical cases may have been that in some instances the blood cultures were discarded before at least fourteen days observation, a point stressed by Denny *et al*[3].

12 CLINICAL CASES OF MENINGITIS

NUMBER OF CASES	6	2	2	1	1
SPINAL FLUID CULTURE	–	–	–	O	O
BLOOD CULTURE	–	O	O	–	O
SPINAL FLUID SMEAR	–	O	–	–	–

SPINAL FLUID CULTURE: 10 NEGATIVE, 2 NOT DONE
BLOOD CULTURE: 7 NEGATIVE, 5 NOT DONE
SPINAL FLUID SMEAR: 10 NEGATIVE, 2 NOT DONE

NUMBER OF CASES	SPINAL FLUID SMEAR	SPINAL CULTURE
8	–	–
2	O	–
2	–	O

– = NEGATIVE
O = NOT DONE

CHART IV

The blood leukocyte count ranged from 4,200 to 32,000 and averaged 14,869.

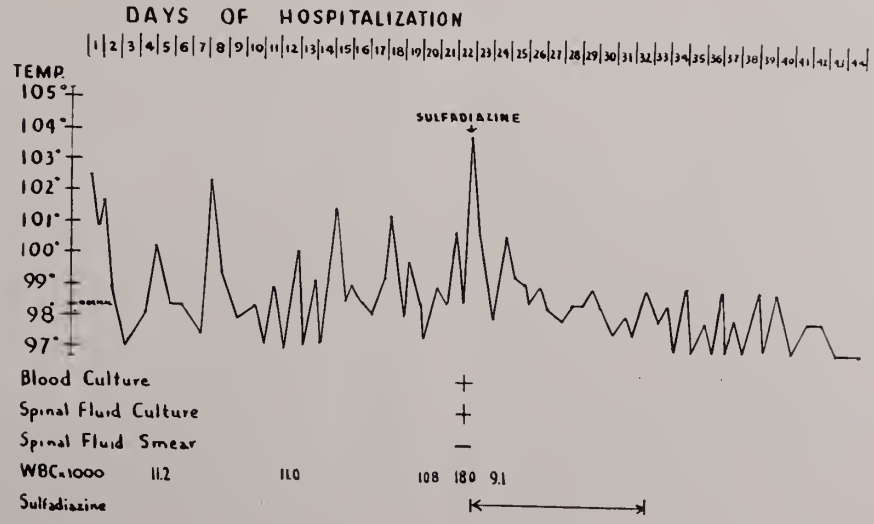
Diagnosis. The diagnosis was not difficult when invasion of the meninges had occurred. Severe headache, often termed the most severe the patient had ever experienced, stiff neck, fever, chills, vomiting and rash usually suggested the correct diagnosis.

Every possible diagnostic aid should be used in addition to the blood and spinal fluid culture. Attention has already been called to the value of petechial smears[20-21]. Boger[23] states that intracellular and extracellular meningococci may be visualized in direct smears of the blood.

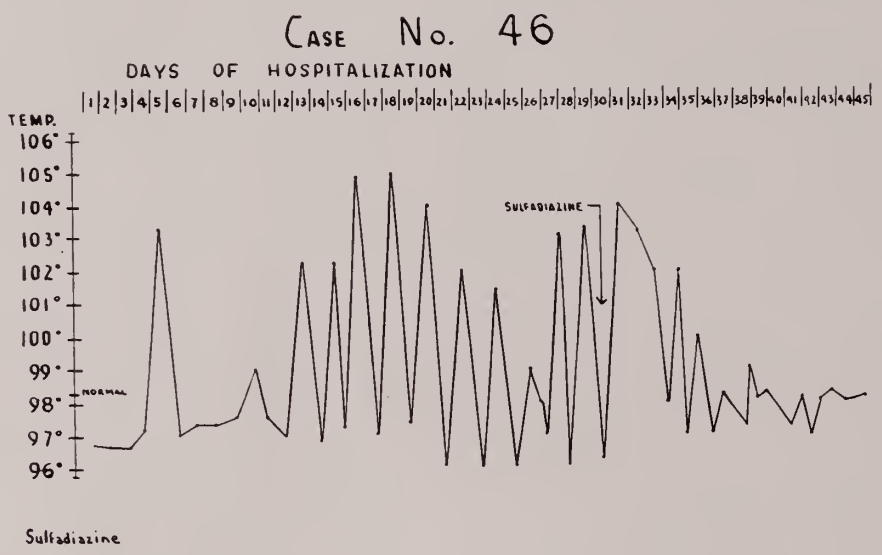
In a few cases, however, during the period of meningococcemia the correct diagnosis was not made; and only when signs and symptoms of localization in the meninges occurred was the true nature of the illness recognized (see Cases 36, 46, and 51).

Case 36. A 23 year old white officer was admitted on March 26, 1945, with a history of an upper respiratory infection. Temperature, pulse and respiration on admission were 102.6°-124-24. Three days later the patient developed pain and slight right knee swelling. Fever continued as shown in Chart of Case No. 36. On 17th hospital day he developed erythematous nodes 5 to 10 mm. in diameter over the distal ends of metacarpal bones and

CASE No. 36



three days later a node appeared on the little finger. On the 22nd hospital day the patient complained of severe headache and was found to have a stiff neck. Lumbar puncture showed turbid fluid with a W.B.C. count of 2,446 and a negative smear for organisms. Culture was positive for N. intracellularis, as was also the blood culture. On sulfadiazine therapy the patient made an uneventful recovery and was discharged on May 12, 1945.



Case 46. A 34 year old colored soldier was admitted on January 11, 1945, because of a duodenal ulcer demonstrable by X-ray. T.P.R. was 97°-70-16. On 5th hospital day the temperature rose to 103.2°, and the patient complained of headache, chills, muscular aches and pains. Fever continued as shown on Chart of Case No. 46. On 30th hospital day patient became confused and disoriented, complaining of severe headache with nausea and vomiting. He had positive Kernig and Brudzinski. Lumbar puncture showed cloudy fluid under increased pressure, 506 white cells (70% polys and 30% lymphs), gram negative diplococci on smear, and culture positive for meningococci. Blood culture was also positive for the same organism.

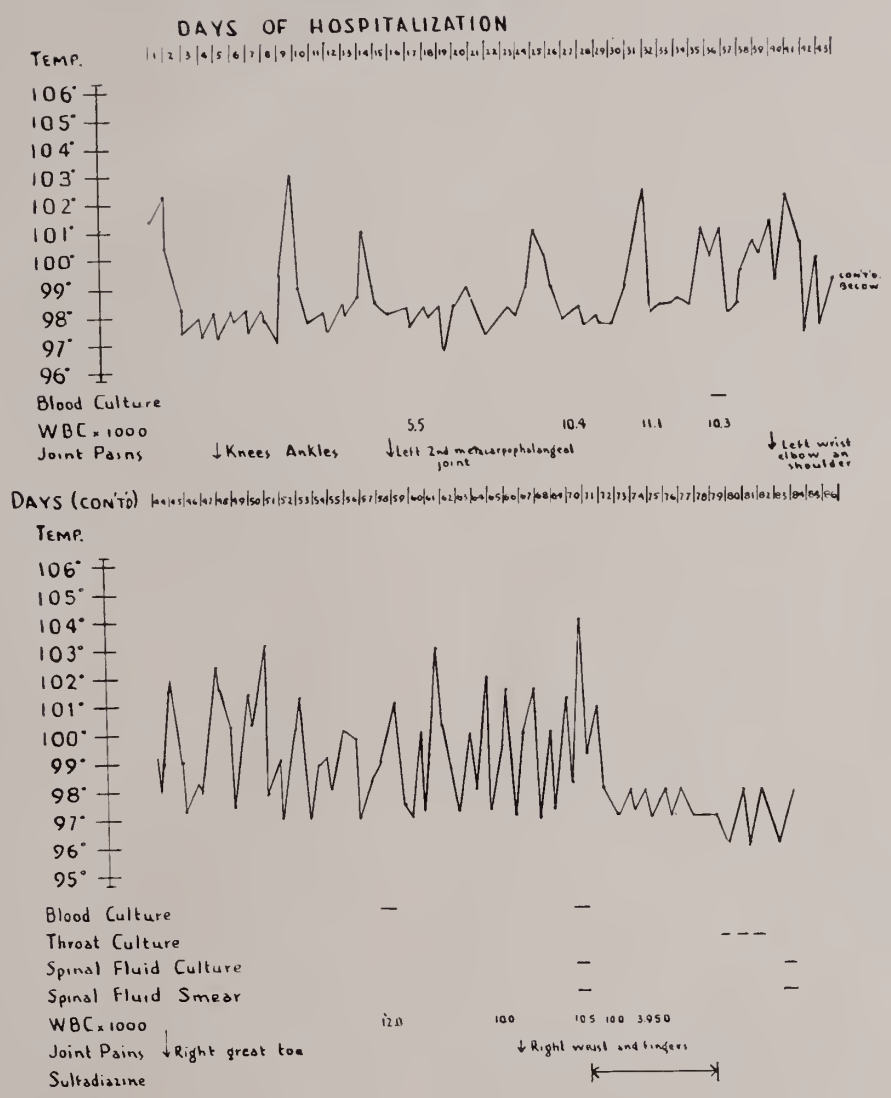
Sulfadiazine therapy was begun on 30th hospital day and patient recovered.

Case 51. A 25 year old soldier was admitted December 25, 1944, with nasopharyngitis. T.P.R. 101.6°-104-28. During the next 69 days he developed swelling, redness and pain in numerous joints —both knees and ankles, left 2nd metacarpophalangeal joint left wrist, elbow, shoulder, and right great toe. Laboratory data revealed a persistently elevated sed. rate ranging from 20 mm. to 32 mm. per hour; temperature curve is shown in Chart of Case No. 51. Two blood cultures were negative. On 70th hospital day the patient had a chill and the temperature rose to 104.4°. He complained of headache and vomiting. On physical examination it was noted that the neck was stiff and there were scattered maculo-papular lesions over the body. Lumbar puncture revealed cloudy fluid. By the 72nd day the patient's condition was much improved. Lumbar puncture on 83rd day revealed clear fluid. Eighteen days later all laboratory work was negative. Patient was up and about ward on the 108th hospital day and was given a convalescent furlough.

Treatment. Sulfadiazine was the sole specific drug used in 52 cases, while it was used in combination with anti-meningococcus serum in 3 cases, with penicillin in 5 cases and with sulfanilamide, anti-meningococcus serum and penicillin in 1 case.

The patients received an average total dosage of 7.75 grams of intravenous sulfadiazine and 49.3 grams orally for an average of 10.2 days of treatment.

Preliminary to the institution of specific therapy, the following procedures should be undertaken: Blood culture, throat culture, petechial smear and a smear of the peripheral blood. At the time of the initial lumbar puncture, a culture of the spinal fluid should be made with fluid dropping from the



needle directly into the warmed culture media at the bedside. Complete examination of the spinal fluid should include total and differential cell counts, smear for organisms, sugar, chlorides, globulin and gold curve.

Immediately following the lumbar puncture, 1,000 cc. of M/6 sodium lactate should be administered intravenously, followed immediately by five grams of sodium sulfadiazine in 100 cc. of distilled water without removing the needle. These two medications may be repeated in 8 hours if the patient is unable to retain oral medication. Blood levels of 10-12 mgm.% should be maintained until temperature has reached normal, and then levels of 5-8 mgm.% should be held for another 5-7 days. It should rarely be necessary to give more than 2 intravenous doses of sodium sulfadiazine.

When the patient is able to retain oral medications, 16 grams of soda bicarbonate per day in divided doses of 4 grams each may be given in lieu of the intravenous lactate. It should be emphasized that the bicarbonate administration should be continued for at least 48 hours after discontinuing the sulfadiazine.

Gilligan *et al.*[24] found that when using 5 grams daily dosage of sodium sulfadiazine but no alkali, 95% of the urines were acid and 43% of these showed crystalluria.

Fluid intake of 3,500 cc. and output of 1,200 cc. daily should be attained.

CONCLUSIONS

1. A clinical study of 60 cases of meningitis treated with sulfadiazine without a death is presented.

2. Forty-eight cases were proven to be meningococcic by laboratory methods, while 12 were considered to be "clinical" cases.

3. Alkalinization of the urine prevents renal complications.

4. Meningococcemia should be suspected in a patient with arthralgia and fever.

5. Sulfadiazine is considered the drug of choice in the treatment of uncomplicated meningococcic meningitis.

BIBLIOGRAPHY

1. Bohan, John, and Lusk, Frank: Diagnosis and Treatment of Epidemic Cerebrospinal Meningitis. *Amer. Jour. Lab. and Clin. Med.* **29**:6, June 1944.
2. Appelbaum, Emanuel, and Nelson, Jack: Sulfadiazine and Its Sodium Compound in the Treatment of Meningococcic Meningitis and Meningococcemia. *Amer. J. M. Sc.* **270**:492, April 1944.
3. Denny, Earl R., Lt. Col., M. C.; Bausch, R. G., Capt., M. C., and Turner, M. A., Capt., M. C.: Meningococcal Infection—Meningococcal Meningitis and Septicemia. *Amer. J. M. Sc.* **208**:478, October 1944.
4. Marangoni, Bruno A., Major, M. C., and D'Agati, Vincent C., Major, M. C.: Treatment of 134 Cases of Meningococcic Infection with Massive Doses of Sulfadiazine. *Amer. J. M. Sc.* **207**:1:67, January 1944.
5. Grieco, Emil H., and Cove, Arthur M.: Meningococcus Meningitis—Sulfadiazine Therapy (Review of 20 Cases). *Ann. Int. Med.* **21**:194, August 1944.
6. Thomas, Henry M., Jr.: The Treatment of Fulminating Meningococcic Infections. *Bull. U. S. A. Med. Dept.* **73**:78-84, February 1944.
7. Daniels, W. B., Lt. Col.; Soloman, S., Capt., and Joquette, W. A., Jr., Lt.: Meningococcic Infections in Soldiers. *J. A. M. A.* **123**:1:1, September 4, 1943.
8. Dingle, J. H.; Thomas, L., and Morton, A. R.: Treatment of Meningococcic Meningitis and Meningococcemia with Sulfadiazine. *J. A. M. A.* **116**: 266-268, 1941.
9. Houseal, R. W., and Gerbasi, M. J.: A Report of 93 Cases of Meningococcus Infection Admitted to Station Hospital, Camp Butner, North Carolina (From November 1942, to September 1, 1943). *N. Y. State J. Med.*, 1329, June 15, 1945.
10. Kaplan, George: Massive Dose Sulfadiazine Therapy in Meningococcus Meningitis. *N. Y. State J. Med.* **43**:2210, November 15, 1943.
11. Ochs, Louis, Jr., and Peters, Michael: Management of Meningococcic Infections at Station Hospital, Fort Benning, Ga. *War Med.* **4**:599, December 1943.
12. White, William L.; Murphy, Franklin D.; Lockwood, John S., and Flippin, Harrison F.: Penicillin in the Treatment of Pneumococcal, Meningococcal, Streptococcal, and Staphylococcal Meningitis. *Amer. J. M. Sc.* **210**:1, July 1945.
13. Cheever, F. S.: The Control of Meningococcal Meningitis by Mass Chemoprophylaxis with Sulfadiazine. *Amer. J. M. Sc.* **209**:74, January 1945.
14. Pilot, Isadore, Major, M. C.: Sensitiveness of Meningococci to the Sulfonamides. *J. A. M. A.* **127**: 6:310, February 19, 1945.
14. Pilot, Isadore, Major, M. C.: Sensitiveness of Meningococci to the Sulfonamides. *J. A. M. A.* **127:6:310,** February 10, 1945.
15. Meads, Manson; Harris, William; Sampler, Bernardo; Finland, Maxwell, with the Technical assistance of Clare Wilcox. Treatment of Meningococcal Meningitis with Penicillin. *New Eng. J. Med.* **231**:509, October 12, 1944.
16. Rammelkamp, Charles R., and Keefer, Chester S.: The Absorption, Excretion, and Toxicity of Penicillin Administered by Intrathecal Injection. *Am. J. M. Sc.* **205**:342, March 1943.
17. Kolmer, John A.: Principles of Penicillin Therapy Including Tyrothricin and Other Antibiotic Therapy, published by D. Appleton-Century Co., Inc., New York City, 1945.
18. Erickson, Theodore C.; Masten, Mabel C., and Suckle, Henry M.: Complications of Intrathecal Use of Penicillin, *J. A. M. A.* **132**:561, November 9, 1946.
19. Johnson, Herbert C., and Walker, A. Earl: Intraventricular Penicillin, *J. A. M. A.* **127**:217, January 1945.
20. Tompkins, V. N., Capt., M. C.: The Diagnostic Value of Smears from Purpuric Lesions of the Skin in Meningococcic Disease. *J. A. M. A.* **123**: 1:31, September 4, 1943.
21. McLean, S., and Caffey, J.: Endemic Purpuric Meningococcus Bacteremia in Early Life—The Diagnostic Value of Smears from the Purpuric Lesions, *Am. J. Dis. Child.* **42**:1053, 1931.
22. Weiss, Thomas; Ochs, Louis, Jr., and Peters, Michael: Meningococcemia. *Bull. of the U. S. A. Med. Dept.* **80**:86, September 1944.
23. Boger, William P.: Fulminating Meningococcemia—Demonstration of Intracellular and Extracellular Meningococci in Direct Smears of the Blood. *New Eng. J. Med.* **231**:385, September 14, 1944.
24. Gilligan, Rourke D., and Dingwall, James A.: The Parenteral Use of Sodium Lactate Solution in the Prevention of Renal Complications from Parenterally Administered Sodium Sulfadiazine. *Ann. Int. Med.* **20**:604, April 1944.

609 Medical Arts Building.

THE PRACTICAL APPLICATION OF UNIPOLAR LEADS IN CLINICAL ELECTROCARDIOGRAPHY*

RENO R. PORTER, M.D.,
and
NATHAN BLOOM, M.D.,
Richmond, Virginia.

It has been recognized for a long time that the standard or classical three lead electrocardiogram was inadequate for the more precise evaluation of cardiac abnormalities and, in many respects, could not be correlated with established physiologic principles and experimental observations. The fundamental defect of such leads is that they are *bipolar* and, as such, they represent the resultant of variations in electrical potential existing at two points which are about equidistant from the heart. For example, an upward deflection in lead III occurs when the potential in the left leg is more positive or less negative than the potential of the left arm, and a downward deflection occurs when the potential in the left leg is more negative or less positive than the potential in the left arm. This is illustrated in Figure 1, which has been drawn to show primarily the variety of extremity lead patterns that can give rise to different QRS waves in lead III. As can be seen, a Q wave in lead III results when the initial QRS activity as recorded in the left leg is more negative or less positive than the initial QRS activity recorded in the left arm, and, likewise, an R wave results when the left leg is more positive or less negative than the left arm. This same applies to all the waves in lead III, and similar relationships exist between the right arm and left arm with respect to lead I and the right arm and left leg with respect to lead II. Consequently, we cannot determine from the standard leads the actual potential that exists in the extremities nor what portion of the heart is responsible for the resulting form of the QRS complex. Because of these facts, there is very little about the standard leads that we can explain on fundamental physiologic principles, and much of our understanding and interpretations of such leads, both normal and abnormal, has been based on empirical knowledge, some of which is correct, some of which is open to question, and some of which has been misleading.

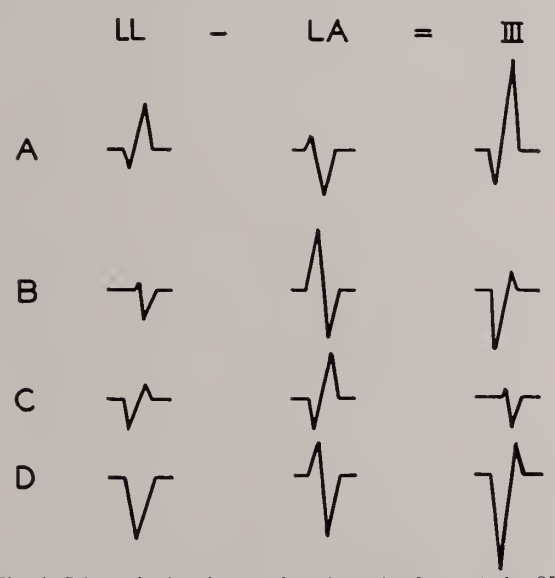


Fig. 1. Schematic drawing to show how the form of the QRS in lead III represents the resultant of the QRS patterns as recorded in the left leg (L.L.) and left arm (L.A.) (see text for details).

In their favor, it must be emphasized that standard leads have the benefit of long usage, and considerable empirical knowledge has been acquired regarding them. In most instances, they furnish adequate and sufficient information regarding the mechanism of the heart beat, the form of the P wave, and the state of impulse conduction, particularly auriculo-ventricular and to a less extent intraventricular. By experience we have learned that certain abnormal QRS and T wave patterns in the standard leads are indicative of distinct disease in the heart. For these reasons, the standard leads are quite helpful and few people would advocate discarding them.

However, they are bipolar leads and, as a consequence, have very definite limitations. They are influenced to a great extent by the position of the heart in the chest and, further, do not permit a

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 15, 1947.

From the Department of Medicine and the Cardiac Laboratories, Medical College of Virginia.

This work supported in part by the Thalhimer Brothers Research Fund.

precise evaluation of the potentials existing in different portions of the heart. They frequently may appear abnormal when no intrinsic heart disease exists, or fail to reveal pathology that is actually present. Such deficiencies are particularly apparent in the evaluation of Q waves and axis deviation, the differentiation of intraventricular block, the recognition of ventricular hypertrophy, and the determination of the location and extent of myocardial injury. Finally, the standard leads are unrelated to chest leads, and therefore cannot be correlated with them except empirically.

For these reasons, additional leads have been needed in clinical electrocardiography in order to evaluate the heart more accurately and to advance beyond the empirical knowledge which has been the sole approach to some electrocardiographic findings. Actually, unipolar leads have been in use for a long time, even antedating bipolar leads, but they were used chiefly for investigating purposes. They did not receive popular recognition until 1933, at which time the use of the 4th or chest lead for the better recognition of anterior myocardial infarction was inaugurated. This was essentially a unipolar type of lead and stimulated more widespread interest in the clinical application of such leads. Since then, many leads of this type have been devised and advocated.

Time does not permit nor is it within the scope of this presentation to discuss the physiologic concepts underlying this subject, some of which are unsettled and controversial. Nor is there opportunity to present the various patterns of unipolar leads, pointing out the normal and pathological features. This has been done most extensively and adequately in the publications of Wilson and his associates[1], Goldberger[2], and Nyboer[3]. However, there appears to be some confusion and misunderstanding regarding these leads, and it has been our observation that there is a tendency either to dismiss them as a research or investigative tool beyond the scope of the average electrocardiographer, or to use them extensively without a proper consideration of their significance. It is our purpose to present briefly the salient features of unipolar leads and indicate the particular usefulness they have in clinical electrocardiography with the hope of clarifying some of the misunderstanding and stimulating interest in their more universal development and use.

A unipolar lead is one in which, for practical purposes, the resulting tracing represents the variations in electrical potential recorded by an exploring electrode, which is close or closer to the heart. This is true because the other electrode in the circuit, called the indifferent electrode, is located at a point more distant from the source of electrical activity in the heart, and since the intensity of this electrical activity diminishes with the distance, the potential variations recorded at this latter electrode are small and insignificant in comparison to that recorded by the exploring electrode. However, there is no region on the surface of the body that shows constantly a zero potential, so, no matter where such electrodes are placed, they are only relatively indifferent and the resulting lead is only *essentially* unipolar. Such a lead is one in which the exploring electrode is paired with a single indifferent electrode which is placed somewhere on the body, usually an extremity. These leads are satisfactory in many instances, but, at times, there may be sufficient variation in the indifferent electrode to produce a false normal or false abnormal tracing.

A truly unipolar lead is one in which the indifferent electrode is actually of zero potential throughout the cardiac cycle and the resulting tracing, therefore, represents a true picture of the electrical potentials recorded by the exploring electrode. This is accomplished by attaching the indifferent lead wire to a central terminal which is connected to all three extremities. We will not go into the theoretical basis of this or the controversy that exists regarding its validity, but in actual practice an electrode connected to such a terminal is for all practical purposes constantly about zero. This type of terminal was originally described by Wilson and his co-workers and is spoken of as a "V" terminal and the resulting leads called "V" leads.

The exploring electrode, which actually records the potential variations we want to interpret, has been and can be placed almost everywhere on the body. The more common sites and the ones with which most of us are familiar are those located over the precordium, the so-called "chest" or "precordial" leads. This may be a single lead taken at the apex (IV) or multiple leads at points across the precordium from right to left (1 to 6). However, others have been utilized at times, such as the ensi-

form process, the angle of the left scapula, esophageal leads, etc. In fact, at a recent meeting, 32 chest leads, consisting of eight points along each of four horizontal lines completely encircling the chest, were advocated. Finally, we have the extremity unipolar leads, and we emphasize *unipolar* because the standard leads, which are bipolar, are sometimes loosely spoken of as extremity leads. These unipolar leads were used originally by Wilson and his associates and recently have been studied extensively by Goldberger. As the term implies, the exploring electrode is placed in turn on each of three extremities (right arm, left arm and left leg), and the potential variations of each extremity recorded. Goldberger has modified the original technique of Wilson which produced complexes of rather low amplitude. By removing the connection to the central terminal of the particular extremity that is being "explored" there is produced a so-called augmented unipolar limb (or extremity) lead.

As can be seen, a unipolar type of lead has several distinct advantages. In the first place, the resulting tracing represents the actual electrical potentials existing in the heart underlying or facing the exploring electrode. Hence, by placing this electrode in various positions around the heart, the electrical activity of all portions of the heart can be studied and evaluated. In addition, these leads, while *semi-direct*, are similar in form to the *direct* leads which have been obtained in animal and a few human experiments. They, therefore, can be evaluated on the basis of very definite physiologic concepts and experimental observations.

With this review of the nature of unipolar leads, let us now discuss the particular usefulness that they possess. In general, unipolar leads, because they record the potential variations of the particular portion of the heart underlying or facing the exploring electrode, give definite and precise information. With such a technique, we are able to recognize distinctive normal patterns as well as the characteristic abnormal changes produced by disease in various parts of the heart.

Multiple precordial leads (see Figures 2 and 3), either 1 through 6, according to the criteria of the American Heart Asociation, or at least 2, 4, and 5, record the patterns of the right ventricle and the anterior portion of the left ventricle, depending somewhat upon the position of the heart in the

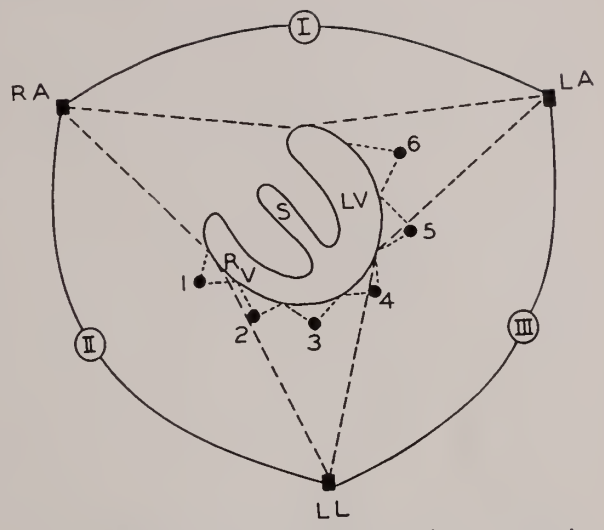


Fig. 2. Diagrammatic representation of the heart on anterior projection to show the relationship of the exploring electrodes to various parts of the heart. The relationship of the standard leads to the unipolar extremity leads also is demonstrated. RV, right ventricle; LV, left ventricle; S, septum; 1, 2, 3, 4, 5, 6, precordial electrodes; RA, right arm electrode; LA, left arm electrode; LL, left leg electrode; I, II, III, standard leads.

chest. At times, it may be necessary to extend these to the 7th (posterior axillary line) and 8th (angle of the left scapula) positions for complete study. These leads are particularly useful in evaluating intraventricular block, ventricular hypertrophy, myocardial infarction, and ventricular premature beats.

Unipolar extremity leads (see Figures 2 and 3), augmented according to the technique of Goldber-

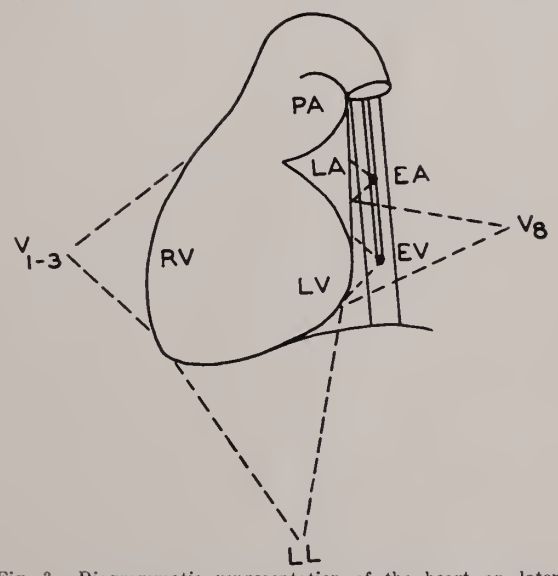


Fig. 3. Diagrammatic representation of the heart on lateral projection to show the relationship of the exploring electrodes to various parts of the heart. RV, right ventricle; LV, left ventricle; LA, left auricle; PA, pulmonary artery; V1-3, precordial electrodes; V8, electrode at angle of left scapula; EA, esophageal electrode at level of auricle; EV, esophageal electrode at level of ventricle; LL, left leg electrode.

ger, are, in most cases, of academic interest only. In other words, they often do not reveal pathology which was not apparent in other leads, but are frequently helpful in clarifying borderline or atypical changes in the standard leads. They will explain why certain abnormalities are present in one or another of the standard leads, and, therefore, help to determine whether these abnormalities are physiologic or are the result of intrinsic heart disease. They determine very accurately the electrical position of the heart in the chest, but this determination has no particular clinical value in itself. It has been our experience that the electrical position as determined electrocardiographically does not always agrees with the anatomical position as observed fluoroscopically. However, besides this academic value, there are certain instances where one or another of these extremity leads are helpful. The right arm lead, because it faces the ventricular cavities through the openings of the great vessels, is sometimes useful in identifying subendocardial lesions, such as coronary insufficiency. The left arm lead faces the epicardial surface of the left ventricle when the heart is horizontal, and the right ventricle when it is vertical. The left leg faces the epicardial surface of the left ventricle when the heart is vertical and of the right ventricle when it is horizontal. The left leg (see Figure 3) also faces the diaphragmatic surface of the heart, and is particularly useful in evaluating the significance of a Q wave in lead III (see Figure 1.)

Esophageal leads (see Figure 3) are taken in two locations, one at the level of the auricles, the other at the level of the ventricle. The former shows auricular activity very clearly and hence is of considerable value in determining certain auricular rhythms that are unidentifiable by other leads. It also faces the ventricular cavities and thereby furnishes information regarding these regions. The ventricular esophageal lead faces the posterior surface of the heart and is helpful in revealing posterior myocardial infarctions. However, it is not of greater value in this regard, probably, than a unipolar left leg lead.

There are many other points where the exploring electrode can be placed, the upper back, the shoulders, the right upper abdomen, etc., and all have been utilized by one person or another. However, in our experience, most of these have no practical clinical value except in very infrequent instances.

In the foregoing, we have attempted to show what unipolar leads are and what they can demonstrate. How do we apply all of this to practical clinical electrocardiography, and how should these supplementary leads be utilized? We want the electrocardiogram to tell us as much as possible regarding the status of the heart. That is, we want to know, if possible, if any pathological process is present. On the other hand, and this is equally if not more important, we do not want to misinterpret or be misled by physiologic variations. Certainly, multiple unipolar leads help to recognize actual diseases in the heart and to clarify whether electrocardiographic abnormalities are pathological or physiological. And the more taken, the more help they are. However, from a practical point, the information obtained is not worth the time and trouble of taking all these leads routinely. After all, taking 10 to 16, or 32 leads is an extensive procedure and is impracticable for every patient.

From our experiences we believe that 3 standard and 3 chest leads are advisable for an adequate routine electrocardiographic study. Because a single precordial lead reflects chiefly electrical activity of a limited part of the heart, more than one is usually necessary to be sure that the heart has been adequately studied from an electrocardiographic point of view. We have adopted chest positions 2, 4, and 5 because these will demonstrate the patterns of both the right and left ventricles in most instances. If these leads are normal, we consider them sufficient and that the heart is normal as far as the electrocardiogram is concerned. If abnormalities are present in any of these leads, additional ones are necessary. These usually include more precordial leads, V1 to V6, and sometimes V7, and V8. Unipolar extremity leads also are taken, in most instances for academic interest, but in addition because they have specific value in the particular instances mentioned. Where there is an indeterminate type of arrhythmia, esophageal leads are used for clarification.

The indifferent electrode should be as nearly zero as possible. Using one of the extremities, such as the right arm or left leg, is quite satisfactory in most instances because the potential recorded at this point is insignificant compared to that recorded at the exploring electrode. However, there will be

occasional cases in which the potential at the indifferent electrode will be sufficient to distort significantly the resulting tracing, so that a central terminal is preferable and is just as easy to do with the newer electrocardiographs.

We are confident that the more precise evaluation of intraventricular block, chamber hypertrophy, and the location and extent of myocardial injury, which these leads allow, will result in improved diagnosis and should lead to more accurate prognosis and, perhaps, better treatment in the future.

CONCLUSIONS

1. Standard leads are inadequate for the more precise and complete electrocardiographic study of patients.

2. Accessory leads, all of which are unipolar in nature, permit more accurate evaluation since they can be judged on the basis of established physiologic principles and experimental observations.

3. Such leads are particularly valuable in the identification of obscure rhythms, disturbances in intraventricular conduction, ventricular hypertrophy, and the location and extent of myocardial infarcts. They are useful also in differentiating physiologic and pathological changes in the standard leads.

4. The three standard leads and at least three precordial leads are recommended for routine use. Additional leads are necessary should abnormalities appear in these routine leads.

5. The more universal application of these accessory leads should result in more accurate diagnosis, prognosis and treatment.

BIBLIOGRAPHY

1. Wilson, F. N., Johnston, F. D., Rosenbaum, F. F., Enlanger, H., Kossman, C. E., Hecht, H., Cotrim, N., De Oliveira, R. M., Scarsi, R., and Barker, P. S.: The Precordial Electrocardiogram. *Am. Heart J.* **27**:19, 1944.

2. Goldberger, E.: Unipolar Lead Electrocardiography. Lea and Febiger, Philadelphia, 1947.

3. Nyboer, J.: Exploring Electrocardiograms, Extremity, Precordial, Esophageal and Discussion of the Q_3 Electrocardiogram. The Assn. Life Insurance Med. Directors of America, 1947.

DISCUSSION

DR. R. EARLE GLENDY, Roanoke: Electrocardiography is somewhat analogous, in reverse, to Mr. Winston Churchill's famous remark concerning the Royal Air Force after the Battle of Britain—"Never have so many known so little about so much."

As Dr. Porter has pointed out in his paper, much of our knowledge of the conventional electrocardiogram is on an empirical basis from long experience with familiar patterns. The more recent knowledge of this subject, as with so many other diagnostic and therapeutic procedures, is growing out of a greater appreciation of sound physiological and electrical principles.

It is apparent from what has just been said that recourse to the supplementary electrocardiographic leads offers a more accurate and complete representation of what is actually taking place in the heart, particularly in disturbances of intraventricular conduction, in heart strain of various types, and in myocardial infarction. It is easy to see now the limitations of older methods and the value of the newer ones.

Although the electrocardiogram is a precise objective record, its interpretation has been and always will be to some extent as subjective as any other form of clinical interpretation. Its value will depend upon the ability and experience of the cardiographer. Once experience has been gained, especially in the use of the exploring or unipolar electrodes, their value will become quickly apparent; and in many instances the interpretation can be made in a more objective way in terms of not only the general location but also the extent of damage present.

I believe that herein lies the real value of unipolar leads and exploratory electrocardiography, in allowing us to eliminate to some extent the subjective or personal element in interpretation. It stands to reason that much more information can be obtained by measuring potentials in the immediate vicinity of the heart than by the measurement of differences of potential in various parts of the body.

PROTRUDED CERVICAL INTERVERTEBRAL DISK SIMULATING HEART DISEASE.*

CONRAD L. GOSSELS, M.D.,
Mount Jackson, Virginia.

The condition of protruded intervertebral disk has become well-known in the last few years, and clear-cut pictures can be diagnosed easily today. The location in the cervical region is less frequent and shows more difficulty in diagnosing. The following case history and its evaluation is meant to help in understanding this syndrome better.

The patient was a 39 years old female. Her past history was uneventful: no diseases or operations. In 1942, she fell from a chair and landed on her back. After some minor discomfort for some time the pain abated.

In April, 1946, pains in her left shoulder started, gradually radiating into her left upper arm. In the following months these pains spread to the lower aspect of her neck and into her left hand. Whenever she got these attacks she felt like "fainting". Her heart was "running away", as she expressed it. She got these spells more frequently when moving around or lifting. Some doctors treated her for neuritis; some diagnosed a heart condition and recommended rest.

I saw this patient the first time in November, 1946, and found the motion of her neck in any direction very painful. Loss of the normal cervical curvature was present. Excruciating pains were produced by hyperextension of the neck. The skin over the whole arm was tender. There was some numbness in her fingers. A weakness in flexion of the thumb and index finger was noticed. Slight atrophy of the thenar and hyperthenar eminences was present. All deep reflexes of the left upper extremity were hyperactive. Analgesia of the entire index finger and thumb was noticeable. The lower cervical vertebrae and first thoracal vertebra were slightly tender.

Examination of lungs was normal. The heart showed normal size and clear sounds. Blood-pressure was normal, as was X-ray of heart and lungs. The electrocardiogram did not show any signs of coronary involvement nor did any signs show up after an exertion-test. Laboratory examinations were normal. X-ray of the spine did not demonstrate any pathology in cervical or thoracic part except slight narrowing of the joint space between 6th and 7th cervical vertebrae.

During the time when I had the patient under my observation the severeness of the pains made frequent doses of codein and morphine necessary, but relief was only temporary.

I came to the conclusion that this was a case of herniation of a nucleus pulposus in the lower cervical spine and sent the patient to the neuro-surgeon of the University Hospital, in Charlottesville, who confirmed the diagnosis. He operated on this patient and removed—under pentothal anesthesia—a herniated nucleus pulposus between 5th and 6th cervical vertebrae on the left side. The post-operative condition was satisfactory. The patient has been feeling fine ever since, with no recurrence so far.

A few words seem necessary here about anatomy and pathology. The intervertebral disk is a compressible fibro-cartilaginous structure with a thickened outer ring, an annulus fibrosus. Central to this structure is the elastic jelly-like cushion—the nucleus pulposus. It is important to realize that the intervertebral joint capsule is thinnest posteriorly and hence more vulnerable to sudden stress and repeated tension. Because of the poor blood supply of the intervertebral disk reparative processes are markedly limited. The posterior longitudinal ligament, stretching from the base of the occiput to the lower end of the sacrum, is thinnest in the cervical and lumbar region and is weakest between the vertebrae where it fans out laterally.

This explains two phases of the clinical picture: As the lateral portions of the ligament are the weakest parts, the protrusion is most likely to occur laterally and to result in root pain if the corresponding root is irritated or compressed. If the posterior longitudinal ligament is unduly stretched, low back pain may alone result from the protrusion of the disk.

Since the classical paper by Mixter and Barr in 1934, publications on this subject have been nu-

*Read before the Medical Society of Northern Virginia, December 9, 1947, at Woodstock.

merous. Lumbar protrusions are by far the most common, constituting about 95% of all protrusions of intervertebral disks in the experience of the Mayo Clinic. The lesions in the lumbar region appear clinically as low back pain, back strain, sciatica, and the differential diagnosis has to rule out neoplasm of the spine, congenital anomalies and degenerative diseases. Case history and careful clinical examination have proved more helpful here than the use of contrast mediums. Contrast fillings are not always positive, but might have to be used in certain cases. Spinal puncture will help only in the evaluation of tumors, as high values of protein of 100 mg. per 100 cc. are rarely seen in cases of protruded disks and are highly suspicious for neoplasm.

As herniation in the cervical region is less frequent than in the lumbar region, it invites a wrong diagnosis more frequently. An undetermined number of patients with pains in the precordium, in the shoulder and arms, who were thought to have coronary thrombosis or angina pectoris, will be found to have a rupture of one or more of the lower cervical disks. Other diagnosis might be arthritis of the cervical spine, brachial plexus neuritis, bursitis or cervical ribs. Location on the left side will make the diagnosis sometimes very hard and will require the skill of the examiner as well as all diagnostic means available.

It is worth recalling the signs and symptoms which are presented in such a case where the location is on the left side to fully understand the difficulty of the diagnosis. The pain in the left neck radiates into the shoulder, to the precordium and down the arm, associated with stiffness of the neck, weakness in the arm and hand and numbness of one or more fingers. The pain is at times acute and severe and aggravated by coughing and sneezing. Sometimes the pain begins in the anterior part of the chest over the heart and may radiate to the shoulder, the neck and arm. This precordial pain may be of such severity as to overshadow any other symptom, although there is usually radiation to the shoulder and arm. Frequently the presence of any pain in the neck is determined only after the patient is closely questioned. The pain in the chest may be related to exertion. It is easy to understand that the diagnosis is not infrequently confused with angina pectoris or coronary disease.

History of trauma to the neck when present may be quite helpful for diagnosis, but is often absent. The trauma is sometimes so many years back that the patient does not remember it anymore. Absence of physical and laboratory signs of coronary disease, normal exercise tolerance, lack of relief by nitroglycerine and similar drugs together with a negative electrocardiogram should make the physician highly suspicious of a ruptured cervical disk. It should be noted that errors with the contrast medium are greater in the cervical spine; the reason for it is that the lesions are smaller here, that they may be so far lateral they are not in contact with the dura, and because it is more difficult to fill the cervical canal with contrast medium. Is the diagnosis certain? The difference in the prognosis should be clearly explained to the patient, for it is just as important to relieve the patient's anxiety as it is to relieve his pains.

The causing trauma may be either acute, such as sudden lift or twist, often followed by a feeling of a snap in the back which brings a halt to whatever the patient may be doing, or chronic, such as is experienced by people whose activities call for repeated bending, lifting and twisting, or those who are subject to jarring forces, as riding in trucks and working with vibrating machinery.

In the acute phase the compressive forces cause a tear, not only in the posterior joint capsule but also in the lateral and weakest portion of the posterior longitudinal ligament. As a result, there may follow disorganization and fragmentation of the annulus fibrosus, the fibro-cartilaginous rings and a displacement of the nucleus pulposus. As a sequence, a bulge appears at the weakest point of the joint capsule and is the cause for the backpain.

With rest and other conservative measures the bulge may recede, the backpain subside and the tear heal. Nevertheless, some degeneration of the involved structures takes place. Then follow herniation and sequestration of joint contents which may not be reducible. If sufficiently large, the extruded portion of the disk irritates and compresses the nerve root with resulting radiation of pains, paresthesia or numbness in the distribution of the involved nerve root.

In case of chronic trauma, there is a slow, progressive degeneration of large areas of the nucleus pulposus and the adjacent structures that finally lead to the same picture as in the acute changes.

Conservative treatment is justified provided the pain can be controlled and recurrences are not observed at short intervals or with great frequency. In the acute episode absolute bed-rest and application of heat to the involved part is indicated. The use of diathermy is often helpful. In the more severe attacks traction on the head or on the lower extremities, depending on the location, proves of benefit.

When surgery is necessary the procedure will involve removal of the disk through a comparatively small exposure and fusion of the spine if indicated. If spinal fusion is not required, the patient will be up within a short time and may resume normal activities in a few weeks. Following fusion, immobilization will be indicated for a longer period.

The rate of recurrence of protruded disks over a five year period is about 5 per cent in reports of some clinics. Avoidance of heavy lifting and straining until the posterior longitudinal ligament has had time to heal is advocated.

I have tried to recapitulate the picture of the protruded intervertebral disk and, by presenting a case with an unusual location in the cervical region, shown the importance of this special syndrome in differential diagnosis and clinical outlook.

General Health and Tooth Decay.

Observing that a group of Filipino children in poor general health had much better teeth than a group of local children in Hawaii in excellent health, Dr. Nils P. Larsen, Honolulu, says in the July 3 issue of J.A.M.A. that dietary factors are probably the determining element in freedom from tooth decay.

Dr. Larsen's paper, entitled "Tooth Decay in Relation to Diet and General Health," was based on extensive studies made of more than 1,000 children living on sugar plantations in Hawaii and 100 children who were brought in from the war-torn Philippines.

Although tooth decay in general is higher among children on a diet with a high carbohydrate content —that is, one of starches and sweets—Dr. Larsen emphasized that this is not always the case; that some children on such diets have very good teeth. The reported observations in Hawaii suggest that other factors than the acid base balance or vitamin A may account for the striking difference in decay in the various groups of children observed.

"Heredity," he says, "does not seem to play an important role in this condition. Hawaiians on the Polynesian diet for 800 years had excellent teeth, while first generation Hawaiians on the Oriental diet of rice had poor teeth. Filipino children in the Philippines had little tooth decay, while Filipino children in Hawaii had much."

Indications are, Dr. Larsen said, that it is not sugar or vitamin intake themselves which determine tooth decay or lack of it, but rather whether certain protective substances, such as fluorine or oxalate, are added to the diet. "The Hawaiians on their ancient diets consumed much seafood which is high in fluorine," Dr. Larsen says. "They probably also swallowed more ocean water, which is high in fluorine. They also ate much taro and poi which is high in oxalate—a possible tooth decay preventive, as might be vitamin K which is present in raw sugar cane."

Dr. Larsen indicated the possibilities are strong that people with the best teeth are those whose diet consists of a combination of foods whose chemical makeup prevents the over activity of acid-forming bacteria. Such diets contain not only fluorine and oxalate, but foods with a high alkaline residue.

TREATMENT OF BRONCHIAL ASTHMA*

K. D. GRAVES, M.D.,
Roanoke, Virginia.

Since allergic asthma is usually caused by exposure to one or more of three classes of offenders, viz., inhalants, ingestants and bacteria, the first step in the treatment of allergic asthmatics is to discover the cause.

Two measures are of chief importance in this—history taking and skin testing.

History:—In taking the history attention must be directed to heredity, seasonal occurrence, frequency of attacks—day or night—what precipitates an attack and what is done for relief; also environmental factors such as animals in the home, use of feather pillows, cathartics, or other drugs, occupation, idiosyncracies and hobbies.

It often happens that a vital feature in the history is overlooked. I recall the case of an elderly lady who reacted strongly to wheat and was not improved by taking from her all forms of wheat. In the course of time her husband passed away and her asthma stopped almost miraculously. Further investigation revealed the fact that the husband was a miller and kept his work clothes in the bedroom at night.

Skin tests are of great importance but are not always of conclusive significance. It is very possible for a patient to give a negative skin test to something he is sensitive to and *vice versa*—he may give a positive reaction to some substance which is of negligible importance.

After the causative factor is discovered, the next step is to get rid of it if possible. Offending foods should be omitted from the diet, feather sensitive cases should have their pillows covered with an impervious pillow case, dust cases should have their home, particularly their bedroom, rendered comparatively dustless, etc.

Infections, particularly infected sinuses, tonsils and teeth, should be cleared up; but this alone, although very helpful, rarely cures a case of asthma. It is my strong impression that a great many sinus cases are allergic in origin rather than *vice versa*. Bacterial vaccines are of value in many cases and I have been particularly impressed by the use of autogenous vaccines prepared by the Cohen-Heist technique. In my last 58 cases of asthma in which cultures were made, I have obtained streptococci in pure culture in 75% of them by this method.

Drugs:—Of the medicinal measures adrenalin is still the sheet anchor. It may be used by spray, or hypodermically in either aqueous solution or suspended in oil; the advantage of the aqueous solution is its speed of action. Small doses repeated if necessary are preferable to larger doses which produce unpleasant reactions.

DRUGS — ROUTINE
CHOICE OF
ADRENALIN
EPHEDRINE
IODIDES
AMINOPHYLLIN—BY MOUTH OR RECTUM
SALINE CATHARTICS
BARBITURATES

Fig. 1.

DRUGS — FOR MORE OBSTINATE CASES
ADRENALIN
AMINOPHYLLIN — INTRAVENOUSLY
ETHER IN OIL PER RECTUM
CALCIUM INTRAVENOUSLY
OPIATES IN SELECTED CASES

Fig. 2.

Ephedrine is probably next in importance. I prefer as a rule to administer this in solution in multiple drop doses so the patient can regulate the dosage according to his individual reactions and requirements.

Aminophyllin is valuable and may be given by mouth, intravenously, or by rectal suppositories.

PHYSICAL MEASURES
OXYGEN (WITH OR WITHOUT CO_2)
HELIUM
AIR FILTER
IMPERVIOUS COVERINGS FOR PILLOWS AND MATTRESS
DUST PRECAUTIONS
CHANGE OF CLIMATE

Fig. 3.

Physical measures of service are mainly oxygen (with or without CO_2), helium, air filters, impervious coverings for pillows and mattress, dust

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

precautions—including removal of animals and flowers from immediate environment—and occasionally change of climate.

The next step in treatment is desensitization for cases who are not relieved by the discovery and removal of offending atopen; in many cases, such as dust, this is impractical if not impossible. In these cases hyposensitization is advisable. In this, two precautions should invariably be followed—to start with dilute extracts, and to keep the patient in the office for from 15 to 30 minutes following each injection so remedial measures can be taken if he has a constitutional reaction. I have been impressed by the advantage of combining an autogenous vaccine with the extract to be used and am almost making this a routine practice at present in all but the pollen cases.

Prognosis:—"Once an asthmatic, a patient is usually a potential asthmatic for the rest of his life just as a diabetic is potentially a diabetic for the rest of his life, whether his urine is sugar free or not."[1]

"Many factors such as the social and economic status and the intelligence of the patient frequently influence the outcome."[1]

I believe that comparative relief can be obtained in something like 80% of the private practice of cases; but as asthma is an hereditary condition it is well to speak of results in terms of relief rather than cure.

REFERENCE

1. Vander Veer: *Am. Jour. Med. Sci.* **164**:97, 1922.

Medical Arts Building

DISCUSSION

DR. OSCAR SWINEFORD, JR., Charlottesville: Anything that causes such widespread discomfort as asthma deserves a good deal of emphasis in any meeting of physicians who treat it. Dr. Graves has outlined most of the remedies available to physicians who assume this responsibility. There are several points that I might emphasize.

Many mild cases who wake up at night with sufficient difficulty to require medical attention will avoid the nocturnal attacks if they take an aminophyllin suppository and ephedrine by mouth at bedtime. The ephedrine can be combined with barbiturates when sedation is desired. The mixture can be dispensed in gelatin capsules and in enteric-coated tablets for prolonged ephedrine effects.

Dr. Graves pointed out, quite properly, the fallibility of skin tests in the recognition of the etiological factors in asthma. A detailed history which brings out the role of infection, foods and inhalants, does not require laboratory equipment. A large percentage of victims of asthma need not be sent to allergy specialists. The procedures which Dr. Graves has mentioned, particularly food and inhalant avoidance based on history, dust-proof mattress and pillow cases, a reduction in dust-collecting or dust-making materials in the environment, plus the early treatment of sinus infection, will take care of a high percentage of asthmatics. Those who do not get complete relief from these procedures should be studied by someone with the necessary skill and equipment.

Our experience with infectious asthma has differed somewhat from that of Dr. Graves. Most of these cases have sinus infection. To relieve them it is necessary to cure the sinus infection. That problem is too detailed for discussion here, but if the asthma patient is operated upon for cure of sinus disease the operation should be a complete one. There should be no operation until all conservative means have been exhausted. But if the operation is to be done, every diseased sinus should be cleaned out by radical surgery. In our opinion, the establishment of drainage does not cure infected allergic sinus disease.

We, too, use a great many vaccines. Our experience with the autogenous ones has not been so successful. The reason for it has become apparent recently. In no case so far have we found a common organism when each of the diseased sinuses was cultured at operation. We have found as many as five different organisms in pure culture in five different sinuses in the same person.

I hope all of you will study the tables Dr. Graves has in his paper, because there are some very useful data which will help you to help your patients.

A MEMBER: I should like to mention just two things, sir. One is that Dr. Graves did not mention myocardial failure. Often these asthmatic patients have not only asthma but myocardial failure, and unless you treat the congestive failure you will not get relief from the signs of failure.

Next, I want to emphasize the use of autogenous vaccine. Unless the material is properly obtained and the vaccine properly made, it will not be of any value. You should do that just as carefully as if getting a specimen of blood and administer it as carefully as you do X-ray treatment, because you can make a man very sick by giving him too much.

I enjoyed the paper and the discussion.

A MEMBER: I should like to ask why Dr. Graves did not mention pyribenzamine and benadryl?

DR. GRAVES, closing the discussion: I thank the gentlemen for discussing my paper.

There are several drugs I did not mention—pyribenzamine, benadryl, and a number of others. These are pretty new; and it has been my experience, and I have gleaned from the literature, that P.B.Z. particularly is especially useful in hay fever rather than asthma.

As to the vaccine, the principle of the technique that I referred to, the Cohen-Heist technique, is that the patient's blood will kill out the organisms to which he is immune and will permit the organisms to which he is not immune to live. I have found it very satisfactory.

THE NUTRITIONAL MANAGEMENT OF THE NEPHROTIC SYNDROME

HARRY Y. SPENCE, M.D.,
and
LEE E. SUTTON, JR., M.D.,
Richmond, Virginia.

Various types of diets have been advocated frequently as therapeutic measures in the control of the nephrotic syndrome. Among these diets, a high protein intake has been favored by the majority of workers[1]. At the present time, however, a moderate viewpoint has been taken and more normal food intakes are offered to these patients[2]. Unfortunately, it is often difficult to administer even normal diets by the usual methods, particularly during the edematous phase of the disease.

When dealing with postoperative surgical patients and with malnourished children, it has been our experience that therapeutic diets are more readily administered when they are given in liquid form at frequent intervals[3,4]. During the last twelve months, three nephrotic patients have been studied in which the majority of foodstuffs have been given in liquid form. Nitrogen balance studies were carried out over relatively long periods of time. The diet which was given in each case was made up according to age and varied with the clinical course of the patient.

The special liquid mixtures that were used throughout the study were designed to supply a liberal protein, high calory, and low sodium chloride intake. Since it has been shown that abnormally large quantities of plasma proteins may be lost in the urine of nephrotic patients, it was deemed advisable to include in the therapeutic diets, proteins which would approach the amino acid composition of the plasma proteins. Additional methionine and cystine were also included with the idea of favoring fabrication of plasma proteins[5]. Carbohydrates supplied a large share of the calories both when the liquid form of diet was given as the only food intake and when supplementary foods were administered. Only a moderate amount of fat was included in the therapeutic diet as high fat feedings have been shown to cause wide fluctuations of serum lipids in nephrotic patients[6]. The sodium content of the mixtures averaged between one-half to two grams as sodium chloride per day.

The first chart is a typical formula of the special diet used in these three cases. This particular formula was given a five year old patient over a two month period. Selected foods, mainly of a carbohydrate nature were also offered along with this mixture. The large amount of calcium carbonate which has been included in the formula is based upon the work of Emerson and his associates who have shown that nephrotic patients assimilate calcium salts very poorly[7]. As a consequence, we have endeavored to supply an additional amount of this mineral in accordance with their data. The protein intake as shown by this formula amounted to approximately four and one-half grams of protein per kilogram of ideal body weight in this patient. Vitamins and essential minerals such as iron and copper were either mixed with the diet or were given in the form of daily medications.

SPECIAL FORMULA : CASE W.E.

Skim Milk Powder	66 GM.
Whole Milk Powder	90 GM.
Casec	26 GM.
Egg Whites	2
Dextri-Maltose #2[1]	150 GM.
Methionine (DL)	0.5 GM.
Cystine (L)	0.5 GM.
Copper Sulfate	3 MG.
Ferrous Sulfate	65 MG.
Calcium Carbonate	1.6 GM.
Oleum Percomorphum[1]	1 C.C.
Syrup of Pantabee[2]	8 C.C.
Pantabee Capsules[2]	2
Ascorbic Acid	75 MG.
Pyridoxine	1 MG.
Wheat Germ Oil	0.3 C.C.

1. Mead Johnson Company 2. Haskell Company

Chart 1.

The second chart shows the nitrogen balance data of a five year old patient over a sixty-six day period. A large nitrogen retention occurred which is much greater than that which would be required for normal growth. We feel that the nephrotic patient is usually in a semi-starved condition if the disease processes have been going on for any length of time. The capricious appetite of these patients, together with the excessive proteinuria, may rapidly deplete the general body tissues to a severe degree. Both Farr's work at the Rockefeller Institute and Peters' work at Yale seem to support this concept of tissue

wastage[8,9]. It can also be seen in this chart that in spite of large nitrogen retentions over a comparative long interval of time, the hemoglobin and

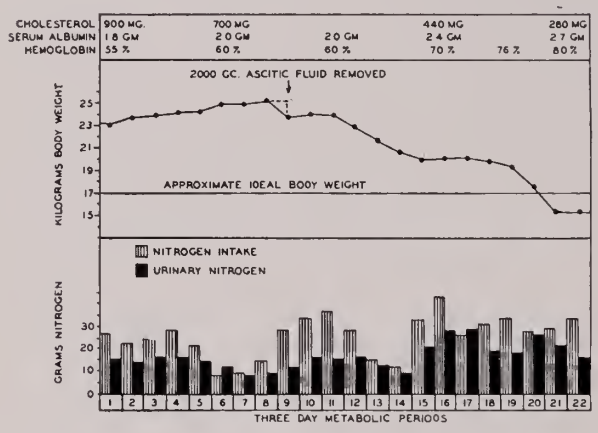


Chart 2.

plasma protein concentrations did not increase until rather late in the metabolic study. This is compatible with the work of Whipple and that of Elman on protein-depleted dogs, and with our own studies on protein regeneration in surgical patients[10,11,4].

long periods of time before any favorable effect becomes evident. This is true even when the loss of plasma proteins by way of the urine has abated.

The third chart shows the nitrogen balance data of a two year old nephrotic patient over a 31 day period. It can be seen that this child also retained a good percentage of the ingested nitrogen. Proteinuria in this case was moderate to intense and varied from 4 to 9 grams of urinary protein per day. The plasma protein concentration never became greater than 3.9 grams per 100 cc. This patient in spite of his marked nitrogen retention over a relatively long period, never became edema free during the study.

The data that we have so far obtained on nephrotic patients suggests that there is rather poor correlation between the amount of dietary nitrogen retained and the loss of edema fluid.

The authors wish to express their appreciation to Dr. J. C. Forbes and Dr. G. H. L. Dillard for their interest and advice in carrying out this study. The authors are grateful to Dr. E. Kendig for making available two nephrotic patients.

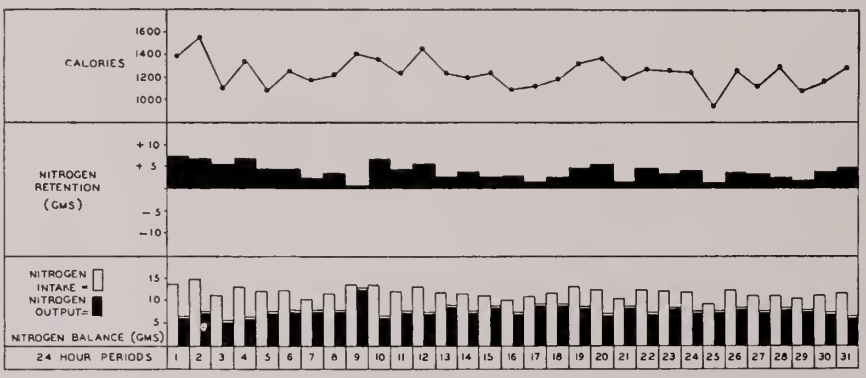


Chart 3.

Previously published work[3] showed the nitrogen balance data of a post operative patient given a high protein, high calory intake. Plasma volume determinations were carried out on this patient at various intervals and the total circulating hemoglobin and plasma proteins were calculated. It is seen that for every gram of plasma protein fabricated, about three grams of hemoglobin and about twenty-five grams of tissue protein were laid down. In other words, only about one thirtieth of the nitrogen retained was used in the formation of plasma protein. It is obvious in the case of the nephrotic syndrome in which protein depletion is manifest that optimal diets must be given over rather

BIBLIOGRAPHY

1. Leiter, Louis: *Medicine* **10**, 1931.
2. Combined Staff Clinics: *Amer. Jour. Med.* **2**:386, 1947.
3. Spence, H. Y., Evans, E. I., Forbes, J. C.: *Annals of Surg.* **124**:131, 1946.
4. Spence, H., Forbes, J. C., Sutton, L. E., Jr.: Unpublished.
5. Madden, S. C., Whipple, G. W.: *Physiological Rev.* **20**:194, 1940.
6. Hiller, A., Linder, G. C., Lundsgoord, C., Van Slyke, D. D.: *Journal Exper. Med.* **391**:931, 1924.
7. Emerson, Jr., Kendall, Beckman, W. W.: *Jour. Clin. Invest.* **24**:564, 1945.
8. Farr, L. E.: *Journal Pediatrics* **17**:734, 1940.
9. Peters, J. P., Van Slyke, D. D.: Quantitative Clinical Chemistry, I., 2nd. Ed., 1946, p. 700.

10. Robschett-Robbins, F. S., Miller, L. L., Whipple, G. H.: *Journal Exper. Med.* **77**:375, 1943.
11. Sachar, L. A., Horwitz, A., Elman, R.: *Jour. Exper. Med.* **75**:543, 1942.

DISCUSSION

DR. H. ST. GEORGE TUCKER, Richmond: The treatment of the nephrotic syndrome has always been a vexing problem. The use of high protein, low salt diets has been widely accepted. Unfortunately this program has more often than not failed to raise plasma proteins or to relieve edema. Many types of diuretics, such as ammonium chloride, potassium chloride, mercurials, and urea, have been tried but without consistent success. Acacia solutions given intravenously to raise the plasma osmotic pressure have occasionally produced diuresis, but the results have been inconstant, and the dangers of acacia storage in the liver and spleen have discouraged its use. Plasma and whole blood transfusions have shown little effect in raising plasma proteins, and the salt content of these substances probably negates any diuretic effect. More recently salt-free serum albumin concentrates have become available. Theoretically, these preparations would seem to be ideally suited to the treatment of the nephrotic syndrome. However, again the clinical results have been disappointing. With very large amounts of serum albumin concentrate, plasma proteins may be temporarily elevated and diuresis occur, but the results are not lasting. Studies have shown that a large percentage of the albumin injected is very promptly lost in the urine. The cost of these preparations is considerable, and for any program of continued use becomes prohibitive.

Most of the recent work on nephrosis has emphasized the fact that the synthesis of plasma proteins by the liver is impaired. It seems established that in nephrosis the protein stores of the body as a whole are profoundly depleted as a result of prolonged protein loss into the urine. Under these circumstances there is strong competition for assimilated nitrogen between the needs for tissue protein, hemoglobin, and plasma protein. As Dr. Spence has shown, even when a positive nitrogen balance can be attained, only one-thirtieth of the retained nitrogen is available for plasma protein synthesis, the rest going to build tissue protein or hemoglobin. Thus the defect in plasma protein formation appears to be chiefly due to its low priority rating in obtaining available building material.

The logical treatment would seem to be a very high protein intake. However, there appears to be a limit to the amount of protein that the body can assimilate for any purposes. When dietary protein is raised above 3.5 grams per kilogram of body weight in children or above 2 or 2.5 grams per kilogram in adults, no increase in nitrogen retention occurs. The excess protein is simply converted into urea and excreted.

The problem then becomes one of supplying a diet that will maintain a positive nitrogen balance for long enough to restore all the depleted proteins of the body. This may take many weeks or months. Any well rounded high caloric diet containing a good amount of carbohydrate and a moderate excess of protein should be adequate, provided the patient takes it and takes it for a long enough period. Salt, of course, should be kept low.

Dr. Spence and his associates have proceeded along these lines. They have added certain amino-acids which are excessively lost in nephrosis, and certain minerals which appear to be deficient in these patients. They have shown that such a diet, prepared in concentrated liquid form, can be taken readily by both children and adults over long periods of time; that positive nitrogen balance can be maintained; and that utimately plasma protein regeneration can be seen. The number of patients treated has been small, but the results are promising. A contribution has been made both to our understanding of the nephrotic syndrome, and to the practical management of these patients.

I consider this an important paper. It has been a privilege to discuss it.

DR. BASIL B. JONES, Richmond: I have had the unfortunate experience in the last three years to run across two or three of these nephrotic children in my practice, and they certainly do present difficult problems for treatment. My last case was seen early in the course of the disease. This child had been under my care since birth, and he was about three years old when the disease started. I had suspected allergy to milk and to two or three other common foods as a cause of some of this child's previous troubles but milk had seemed to be the chief offender. I had had trouble keeping this child off of milk because he was very fond of milk and ice cream and the parents would give in if he begged for them. The fact that these indiscretions often preceded acute respiratory and tonsil infections apparently did not impress the parents the same way it did me. The child developed edema of the legs, scrotum and face and his urine was loaded with albumin. There were some hyaline casts in the first specimen of urine but no red cells or pus cells were ever found. He had a high blood cholesterol. His blood proteins had not fallen very low but there was a reversal of the albumin globulin ratio.

Considering the possibility that milk allergy might be the cause of his nephrosis, I insisted upon the parents keeping milk out of this child's diet. I put him on a fairly high protein diet with no milk protein and included dicalcium phosphate, liver extract iron and adequate vitamins. His edema cleared up quickly and his urine became perfectly normal in a month or less.

I have seen him several times since and he has remained in good health with no more edema. On at least two occasions I have found albumin in his urine and on questioning the parents have found that the child had gotten ice cream two or three days previously. Whether there is any real connection in this case between milk allergy and the nephrosis, I do not know. From a speculative standpoint it certainly seems possible. His treatment was based on that assumption and he responded as though that assumption were correct.

PHYSICAL MEDICINE IN GENERAL PRACTICE*

WENDELL E. MALIN, M.D.,
Wytheville, Virginia.

The widespread absence of physical medicine in the armamentarium of the general practitioners of today is largely due to the cloud resting over such treatment because of the exploitation by quacks and irregular practitioners in past years. The Council on Physical Therapy, now known as the Council on Physical Medicine of the A.M.A., has for the past twenty-five years been evaluating the various physical therapeutic means. The importance of their conclusions can be illustrated by the fact that so much space was given for the physical medicine demonstration at the Atlantic City convention this year.

Physical medicine is defined as the diagnosis and treatment of disease by various non-medicinal means. Physical means employed are light, heat, cold and massage. Agents used in producing these properties are water, infra-red and ultra-violet light, diathermy, manipulations of the technician or the patient and various mechanical devices.

This discussion being necessarily limited, I will consider only the simple and inexpensive means available in any home or physician's office. Two cases will be presented that illustrate two common conditions: paronychia and upper respiratory infection.

Case 1. Mrs. T., housewife, age 44, gave history of having a "run around" on the second right digit which started with a "hang nail" four weeks before. Inspection revealed a typical paronychia with associated cellulitis and beginning lymphangitis extending into the forearm. Temperature 101° F. Patient refused hospitalization, blood count, surgical drainage, sulfa therapy or penicillin. She did agree to use a "contrast bath" to the right hand and forearm at home. (Demonstration of "contrast bath" to upper extremity).

CONTRAST BATHS

Equipment:

1. Two basins large enough to immerse arm to elbow.
2. Small pan.

Procedure:

1. Fill one basin with water as hot as patient can tolerate.
2. Fill other basin with water about 45° F.
3. Place small pan of water on stove or hot plate for reheating water as it cools.
4. Immerse affected part in hot water for two minutes then in cold water for 15 to 30 seconds. Continue alternating for 15 minutes, using cold last.
5. Add hot water during treatment as patient can tolerate it.
6. When treatment is finished, dry with towel.

Patient reported that drainage developed after three treatments and all redness and swelling were absent after three days.

Results of Treatment: Heat produces dilatation, and cold produces contraction of the blood vessels. The resulting increased flow of blood locally, aids the natural physiological processes for control of infection and repair.

Case 2. Mr. S., office worker, age 30. History of headache, coryza, general aching, fever and dry cough, starting 24 hours before. Temperature 100° F. Physical examination negative except for injected pharynx. Diagnosis:—Upper respiratory infection. (Demonstration hot foot bath, fomentations to chest, cold mitten friction, centripetal peripheral rub).

Result of Treatment: (1) Prolonged heat to the lower extremities by dilatation of local blood vessels causes decongestion of head, neck, and respiratory passages. (2) Short heat to the chest facilitates respiration and expectoration. (3) Short cold to the body with massage produces tonic and stimulating reactions of muscles and vessels through direct and reflex nerve reaction. (4) General result of treatment is redistribution of blood and tissue fluids with improved peripheral and splanchnic circulation.

Dr. J. S. Coulter, of Northwestern University, says, "Since water is so abundant and readily obtainable, its benefits as a therapeutic agent are often forgotten." Dr. Frank D. Dickson, of the A.M.A. Council, states: "Moist heat in the form of hot packs has several advantages. It is always available as it requires no special apparatus, since

*Read before the Southwestern Virginia Medical Society, at its semi-annual meeting, September, 1947.

the best pack material is that which contains a large per cent of wool, such as a piece of old blanket. Wool yields up heat more slowly than other forms of material. Moist heat in the form of packs is tolerated for longer periods and with less danger of skin reaction than dry heat. Moist heat, clinically at least, seems to have a greater analgesic effect than dry heat and certainly is more efficient in reducing inflammatory exudates."

The physiologic mechanism of local applications applied to various reflex areas of the body is well described by Dr. Fred Moor, past president of the American Congress of Physical Therapy. "Beginning with the skin, the stimulus produced by heat, cold, electricity, or mechanical means is conveyed to the spinal cord by sensory nerves, i.e., nerves of pain, temperature, and touch. In the spinal cord, the impulse is conveyed upward or downward to various levels by these sensory nerves, whose ends touch cells in the spinal cord which start other impulses over outgoing nerves. The impulses which are destined to influence an internal organ pass over nerves which enter the chain of sympathetic ganglia, and so pass with the sympathetic nerves to the internal organs. These efferent (outgoing) sympathetic nerves are connected not only with the blood vessels of the internal organs, but also with their muscles and glands. Because of these connections, every function of the body may be stimulated or depressed by influences arising in the skin."

Neurological knowledge of the reflex areas of the skin makes it possible to obtain very specific effects in treatment of involved organs. For example, an ice bag applied to the precardia slows the heart rate, increases its force, and raises arterial blood pressure; and in case of a dilated heart, an ice bag decreases the diameter of the heart a half inch to an inch, as shown by X-ray examination. Prolonged hot applications to the pelvis, as a fomentation, a pack, or a sitz bath, relax the muscles of the bladder, the rectum, and the uterus, dilate their blood vessels, and increase the menstrual flow.

The value of massage in treating patients whose activity must be limited is better understood from the research of Ralph Pemberton, of Philadelphia, who says, "While massage partakes somewhat of the nature of exercise, studies from the chemical standpoint show that this is not wholly the case. After massage, given as vigorously as clinically practicable to individuals unaccustomed to it, there develop none of the evidences of acidosis, such as follows active exercise."

Physical medicine has been given credit for clinically producing the following results when adequately and scientifically applied to suitable cases:

1. Removing products of exudate and expediting tissue repair.
2. Improving circulatory dynamics.
3. Reducing edema due to local stasis.
4. Producing sedative effects through reduction of pain and promotion of relaxation in neuromuscular hypertonus.
5. Preserving body function in the presence of inactivity.
6. Reducing the tendency to contracture and deformity in inactivity.
7. Developing new mechanisms to compensate for lost function.
8. Preserving circulatory balance in geriatrics.
9. Through the use of fever therapy by changing the organic reaction of patients with special conditions such as chorea, C.N.S. lues, polyneuritis and neuropsychiatric cases.
10. By providing mental, recreational, and prevocational activities in post-surgical and convalescent cases.

In conclusion, it may be said that physical medicine has been clinically and experimentally demonstrated to be effective in many disease processes. When understood as to principle and skilfully applied, it is possible to replace drug therapy in some cases with physical measures which, in general, involve less incidence of side reaction and complication. Because thorough anatomical and correct physiological knowledge is essential in obtaining satisfactory results and avoiding harmful complications in using the multiple physical agencies available today, only qualified physicians should prescribe for the various forms of pathology encountered in medical and surgical practice.

335 Fourth Avenue.

NAIL CHANGES FOLLOWING THE APPLICATION OF A NAIL PREPARATION

ALLEN PEPPLE
and
RICHARD W. FOWLKES
Richmond, Virginia.

CASE REPORTS

Case 1.—A white female was first seen on May 6th, 1948, complaining of separation of some of her nails from the nail beds and a brownish discoloration of all of the finger nails. She stated that these changes were noted six weeks previously. Approximately two months prior to this visit a new type of "undercoat" (Everon) had been applied to her nails prior to the application of a nail polish.

Examination on May 6th, 1948, revealed that all of the finger nails were involved. The distal one-half of every nail presented a brownish discoloration (figure 1). In six of the nails there was

Fig. 1

a separation of the nail from the nail bed with a moderate hyperkeratosis of the nail bed (figure 2). The skin of the distal phalanges adjacent to the nails were slightly reddened.

Case 2.—White female age 48 was first seen on June 24th, 1948, complaining of painful fingernails and finger tips of approximately two months' duration. A brownish discoloration of the nails of the fourth and fifth fingers was first noted, and one week later all of the nails were involved. Some of the nails were separated from the nail beds as in case 1. The patient was aware of "a growth" under each nail. During the past month her nails had started to "buckle" and she added that "it hurts to button my clothing or open a package of cigarettes."

Examination of the nails on June 24th, 1948, revealed a discoloration of the distal one-half of the nails and a separation of some of the nails from the nail beds. There was more sub-ungual hyperkeratosis than was noted in case 1. There was more red-

Fig. 2

ness and tenderness of the distal phalanges. In those nails that were "buckling" the lateral margins of the nails seemed to be incarcerating themselves into the soft tissues.

Case 3.—White female age 46 was first seen on July 2nd, 1948, complaining of a brownish discoloration of the finger nails and separation of the nails from the nail beds. These changes were first noted on June 27th, 1948, after the patient had removed her nail polish. A friend of hers remarked

*From the Department of Dermatology, Medical College of Virginia.

"you have that nail infection"! The patient stated that several months ago she had used an "undercoat" known as Everon, and that for the past two months she had had her finger nails manicured at bi-weekly intervals and on each occasion this same "undercoat" was applied prior to the application of finger nail polish. She stated that on the 28th of June her finger tips were swollen and tender.

Examination on July 2nd, 1948, revealed a discoloration of the distal one-half of all of the finger nails, onycholysis of some of the nails, and a mild hyperkeratosis of the nail beds. The soft tissues of the terminal phalanges appeared to be normal.

The finger nail changes of the foregoing cases were baffling to us until we discussed them with Drs. M. B. Sulzberger and Hilliard Shair. They were kind enough to furnish us with their manuscript[1] describing similar changes due to the application of a base or under-coat.† In their cases as in ours the "undercoat" was Everon. Everon is a solution of phenol formaldehyde resins and synthetic rubbers in methyl ethyl ketone. Similar preparations under different names are on the market. The producers of Everon estimate that one million women use this preparation every week.

Sulzberger, et al, point out that this reaction of the nail bed is an unusual type of eczematous contact type of dermatitis. Their patients responded with positive patch tests to the "undercoat". They emphasized that nail changes such as onycholysis, atypical psoriasis, undiagnosed instances of subungual hyperkeratosis deserve further investigation.

In some individuals such as our first and third cases the subjective sensations were minimal while the opposite was true in the second case. It is obvious that this type of nail change will persist if the causative agent is not removed. The nails will again return to normal after the application of "undercoat" is discontinued.

Since this manuscript was submitted, the authors have observed an additional case, showing nail changes after the application of an "undercoat".

†Base- or under-coats are applied to the nails before the polish or lacquer is put on. It is suppose to aid in making the polish go on more uniformly, stay on longer, and to prevent chipping.

REFERENCE

1. Sulzberger, M. B., Rein, C. R., Fanburg, S. J., Wolf, Max, Shair, H. M., Popkin, G. L.: Allergic Eczematous Reactions of the Nail Bed. J.I.D. in Press.

701 Professional Building.

Lists 6 Rules To Guard Children Against Polio.

Despite the lack of a definite preventive for infantile paralysis, parents may guard their children against polio by following a few simple rules, Dr. Hart E. Van Riper, of New York, says in a recent issue of *Hygeia.*

Dr. Van Riper is medical director of the National Foundation for Infantile Paralysis and at one time served as a resident in pediatrics at Children's Hospital in Cincinnati. He has been connected with the National Foundation since 1945.

Dr. Van Riper listed these safeguards:

1. Practice cleanliness.
2. Avoid new contacts.
3. Don't get overtired.
4. Avoid chilling.
5. Don't swim in polluted waters.
6. Call your doctor at once.

"These are simple safeguards, but important: especially the advice to call your doctor at the first suspicious signs. Early medical attention is the best protection parents have against infantile paralysis."

BASAL CELL EPITHELIOMA: SOME VALUABLE POINTERS GAINED IN THE SUCCESSFUL TREATMENT OF 300 CASES BY X-RAY RADIATION

GEORGE H. CARR, SR., M.D.,
Portsmouth, Virginia.

This paper is based on actual experience, using X-ray in its primitive state, when rays were generated by revolving plates cranked by hand, to the present day apparatus.

Basal cell epithelioma is the most frequent form of skin cancer. It was first described by Jacob in 1927, and for many years was known as Jacob's ulcer. Synonyms, now obsolete, are chancroid ulcer, ulcus exedens, and benign skin cancer. The term rodent ulcer is still used, but less often than formerly.

Previous to 1902 there was great confusion, both clinical and pathological, relative to cutaneous neoplasms. Krompecher separated basal cell epithelioma from other cutaneous epithelial tumors and did a great deal to clarify the situation.

Basal cell epithelioma, when of a pure type, rarely attacks the mucosa primarily. Secondary invasion of the orificial membrane is common. It is possible that the rare primary mucous membrane growths are of the mixed type, basal-squamous-cell epithelioma. The same is true of metastases. Cases such as that reported by Niles, in which a lesion at first having the histological architecture of basal cell epithelioma, must be regarded as a mixed type. Krompecher and others maintained that basal-cell epithelioma could occur primarily in mucous membranes. On the other hand, Martzloff, Lunsford and Taussig, Vinson, New and Figi, Brodus, Owen, and others have searched for such tumors in both the orificial and deep mucosa and failed to find a single case in a very large amount of material.

Basal-cell epithelioma, which is very common, is seen more often in males than in females. The sites of predilection are the head, particularly the face and the trunk, but hardly any part of the body surface is exempt. The lesions may be single or multiple.

Most pure basal-cell epitheliomas are radiosensitive. They grow very slowly, as a rule, and are easily cured by judicious and proper use of X-ray radiation. Spontaneous cure has been observed, usually as a result of ulceration and cicatrization, in very superficial cases, but such an occurrence is rare. Neglected growths may invade deep important structures and cause extensive destruction of tissue, with death from exhaustion, infection, or hemorrhage.

Clinically, depending upon the resistance or susceptibility of the tumor bed and the stage of evolution, the basal-cell epithelioma is rather polymorphous. In 1916 Hazen described a number of types, and his classification has been repeatedly modified. A clinical classification is unsatisfactory, however, because there are few definite clinical types. Most of the varieties are only temporary, one being likely to change to another over a period of years. While considerable confusion thus exists, it seems possible to recognize the following forms:

Nodular type
Ulcerous type
Papillary type
Deep type
Flat type
Cicatrizing type
Morphea-like epithelioma.

In an occasional case the affection remains superficial for many years, with slow, often irregular, peripheral extension and irregular superficial ulceration and cicatrization. Well-defined patches of various size are formed, dark red in color, with or without nodules and rolled edges. The patch may be round, oval, or configurate. It may be scaly, crusted, and nodular in places. Throughout the area is considerable cicatricial tissue. Healed areas may remain healed, but not infrequently nodules and ulcers develop in the scar tissue. This is the cicatrizing type, known also as serpiginous cicatrizing epithelioma. By many it is thought to be of the flat variety. These serpiginous cicatrizing lesions are often mistaken for syphilis and lupus vulgaris.

Ordinarily, a clinical diagnosis of basal-cell epithelioma is easily established. Occasionally it is difficult or even impossible. Regardless of clinical certainty, it is preferable to make a microscopic examination. The principal diagnostic features of

basal-cell epithelioma, in general, are: Chronicity, mother of pearl nodules, rolled edge, ulceration, absence of induration, occurrence in adult life, with perhaps a history of an antecedent lesion. Syphilis can be differentiated by its more rapid evolution, the character of the nodules, which are not the mother of pearl variety, the past history, raw ham color, positive serology, and prompt response to adequate antisyphilitic therapy.

Various therapeutic methods are in vogue for the treatment of cutaneous cancer and precancerous dermatoses as well. The method of choice is X-ray radiation for esthetic reasons; also, it is painless.

If the best results are to be obtained, the technic must be accurate. A high degree of technical skill and experience is necessary. In addition, one should possess the knowledge, judgment and ability to weigh many important factors, such as the histologic grade of the lesion, its radiosensitivity, and general clinical and morphological features.

I have had 98% of cures of basal-cell epithelioma by X-ray. Experience has taught me that better results are obtained by fractional doses of 40 R-units twice a week, carefully watched, using a 4 milliampere tube, 88 kilovolt peakes, appropriate time and distance. Have the opening in the lead large enough to show 2 centimeters of healthy skin. When you obtain a mild erythema in the healthy skin, maintain this with still smaller doses, until growth is cured. This usually takes from 8 to 12 seances. Incidentally, this same procedure has been very effective in senile and other forms of keratosis, cutaneous horns, and other precancerous conditions.

301 Court Street.

Physical Medicine in Paralysis.

Marked success in the treatment of hemiplegia, which is a paralysis of one side of the body due to brain hemorrhage, through the use of physical medicine is reported by Comdr. Edward W. Lowman (MC), U.S.N., of the Department of Physical Medicine, U.S. Naval Hospital, Philadelphia.

Writing in the May 29 issue of *J.A.M.A.*, Comdr. Lowman reports that out of 18 chronic cases of paralysis due to brain hemorrhage, 12 learned to walk again after undergoing an intense program of physical medicine for 118 days, while three showed definite improvement. There was no improvement in the condition of the remaining three. In 10 additional new cases, nine of the patients learned to walk again after 67 days of treatment, and improvement was noted in the other patient.

Commenting on the results of the treatment, Commander Lowman says that "the early, intensive and intelligent use of physical medicine, with emphasis on therapeutic reconditioning exercises, assures a potentially good prognosis in the rehabilitation of patients with uncomplicated hemiplegia."

The program of rehabilitation employed by the Navy doctor was begun from two to four weeks after the onset of the acute illness. The first stages included massage, application of heat and therapeutic baths, followed by active exercises in bed when voluntary motion was possible. Efforts to learn to walk again were begun early, usually within two to eight weeks after treatment was started. This was a gradual process, beginning with sitting up in bed and placing the feet on the floor from the bedside, and concluding with exercises in the gymnasium. The gymnastics program, which was conducted under the supervision of a trained physical therapist, consisted at first of simple mat exercises and ultimately of more difficult ones on bars, stationary bicycles and other devices.

This program varied somewhat for each patient, depending on his physical and mental condition.

According to Commander Lowman, the greatest factor in the success of the rehabilitation treatment is "cooperation on the part of the patient, fostered by his desire to regain his independence."

DIABETES INSIPIDUS

A. B. GRUBB, M.D.,
Cripple Creek, Virginia.

The following case is of a 33 year old man, 6 feet and 6 inches tall, who possibly through life has had too much of the anterior pituitary hormone. Recently, without any apparent injury to the posterior pituitary lobe, but evidently due to a degeneration, he developed a severe case of diabetes insipidus. The color and specific gravity was not much more than spring water and the amount daily was well between six and eight gallons. The patient was weak and suffered from thirst. He voided every hour of the night and loss of sleep was distressing.

He was as soon as possible put on pitressin tannate and one ampoule each 24 hours proved to be sufficient. This was given about an hour before bedtime so that it would get in its strongest effect at night.

The symptomatic results from the first were gratifying and were indeed spectacular. The patient rested all night long, and his output of urine became normal. Specific gravity went up to about 1015.

Pituitrin (Obs.) proved to be a poor substitute for pitressin tannate. The effect wore off in about five hours and the patient got no rest after about 3 A. M.

The future plan for this patient is for a transplantation of a posterior pituitary lobe into any part of his body, say under the rectus muscle, when one can be obtained. This, it seems, should at least be worth a trial.

Surgery for Facial Paralysis.

Several technics for the surgical repair of facial paralysis are described by Paul W. Greeley, M.D., Chicago, in the current issue of the *Archives of Surgery,* published by the A.M.A.

Facial paralysis may result from injury to the seventh, or facial nerve. According to Dr. Greeley, the best method of repair involves surgery of the injured nerve, with the intention of permitting the face to gain motion again. This may include the sewing together of the ends of the lacerated nerve trunk or the grafting of part of one nerve to another to fill in a gap if the injury has made one.

The uniting of one nerve to another, which has been used several times in the treatment of facial paralysis, is undesirable, the report says, because "the associated movements involved in trying to move the facial muscles are awkward and frequently more conspicuous than the original facial paralysis." When nerve surgery cannot be undertaken, the article says that "the simplest and most satisfactory plastic surgical correction is obtained by supporting the paralyzed face with strips of autogenous fascia lata [a fibrous tissue surrounding the muscles of the thigh]." This procedure involves transplanting the strips of tissue under the skin from the muscle of the temple, down the side of the face and to the muscle underneath the lip.

This in itself will not make the face active again, as in the nerve surgery procedures, but will improve the appearance of the patient and increase his comfort. Some activation may be obtained, however, by supplementing the fascia lata operation with one of the muscle transplanting procedures.

According to Dr. Greeley, the ultimate success or failure of these plastic surgical operations "depends largely on the intelligence of the patient and his willingness to practice movements of facial expression before a mirror until he has educated himself on how to utilize the muscles in their new locations."

PUBLIC HEALTH

L. J. ROPER, M. D.,

State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for June 1948, as compared with the same month in 1947, and for the period of January through June 1948, compared with the same period in 1947, is as follows:

	June 1948	June 1947	Jan.-June 1948	Jan.-June 1947
Typhoid and Paratyphoid	9	11	62	42
Diarrhea and Dysentery	251	865	1,644	2,676
Measles	1,301	935	5,493	7,009
Scarlet Fever	55	60	562	820
Diphtheria	19	12	118	137
Poliomyelitis	10	3	20	17
Meningitis	6	9	51	63
Undulant Fever	8	4	47	29
Rocky Mountain Spotted Fever	17	13	22	20
Tularemia	5	3	29	31

POLIOMYELITIS 1948

Much interest and concern has developed throughout Virginia because of marked increase in the prevalence of poliomyelitis in North Carolina. Exact record of total cases is not available at this time; however, it appears that in excess of 500 cases have been reported through July 12th. These reports indicate concentration of cases from eastern central, central and western sections of the state with scattered cases elsewhere. It is interesting to note that to a large extent the greatest prevalence is reported in those counties in which concentration occurred during the 1944 outbreak.

In Virginia the prevalence of poliomyelitis has not as yet materially increased. Largely, distribution of cases is scattered with the exception of 11 cases which have appeared in June and July in the Hampton Roads area. During 1947 a total of 173 cases were reported with 17 of these occurring during the first six months of the year. Nineteen cases have been reported during a similar period in 1948 and 12 additional cases to date during July. The average record over a 38 year period of report for the month of July shows an average of 30.9 cases. During the last outbreak years of 1944 and 1945 there were reported respectively 756 and 335 cases or a total of 1091. Since poliomyelitis incidence tends to increase in four to six year cycles, it may not reasonably be expected that morbidity should be high during this year. It must be stated, however, that since prevalence is high in North Carolina the cyclical tendency theory may not apply and another year of high prevalence might develop in Virginia.

The State Health Department is concerned with poliomyelitis developments in North Carolina and is carefully watching the situation in Virginia. Preliminary arrangements have been made to provide all accepted control measures and facilities for diagnosis and treatment of the patient. The department is cooperating with the Infantile Paralysis Foundation Chapters throughout the State and this organization, as in the past, is in the position to render material assistance. In order that the state and local health departments may provide maximal levels of service to physician and patient it is requested that all new cases of poliomyelitis be reported by telephone or telegraph, collect, immediately following diagnosis. Report may be made to the local health department in those areas with organized public health facilities. In other counties and cities report should be made directly to the State Health Department. To this end the cooperation of physicians and hospitals will be much appreciated. News releases are being provided daily. Through this means the number and distribution of cases is made available to those interested. From time to time additional information will be released as to program developments and general advice to the public. The normal precautionary measures to be taken are listed in the booklet (The Control of Communicable Diseases) as issued to all reporting physicians in Virginia during 1948.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Work With The Press

The three columns of health and medical care information—"Test Your Medical IQ", "Health Talks" and "It's Your Health"—are now being supplied regularly to those papers which have requested them. Format and type for these are identical, thus adding a distinctive touch and making the columns easily recognizable for readers.

One other paper has been added to the mailing list, making a total of 47 weeklies or afternoon dailies now participating.

This office would be glad to send samples of these columns to any doctor who may be in position to pass them on to a local editor who is not now using them.

Radio Programs

Radio station WTAR in Norfolk has been placed on the list of stations in this year's "Tell Me Doctor" series, and will broadcast the program at 8:55 each Sunday evening.

Four other stations — WOPI - FM in Bristol, WBTM in Danville, WLVA in Lynchburg, and WINC in Winchester—are using these transcriptions five times weekly.

Veterans Medical Care Program

There are now three separate committees functioning in connection with the Veterans Medical Care Program in Virginia.

The Fee Schedule Committee, whose work may have been completed, set up the initial schedule of fees for the program. Members of the Committee are Drs. J. M. Emmett, Chairman, W. G. Crutchfield, G. A. Duncan, J. R. Gorman, H. B. Mulholland and A. F. Robertson.

The Committee on Applications, headed by Dr. J. R. Massie, serves in final processing of applications sent in by Credentials Committees of local Medical Societies. Other members are Drs. Allen Barker, Edward E. Haddock, A. Brownley Hodges and Oscar Swineford.

Drs. Patrick H. Drewry, Jr., Chairman, R. D. Butterworth, Guy W. Horsley, Elam C. Toone, Jr. and Fletcher J. Wright, Jr. constitute the Veterans Affairs Committee, sometimes referred to as a Review Board. In many other states, it was found that such a committee was valuable in settling problems and ironing out unforeseen difficulties arising in the functional program. The work of this Committee is construed to be especially important in view of the fact that, in the program in Virginia, doctors will deal directly with the Veterans Administration instead of through the State Society, as is the case in some other states.

BOOK ANNOUNCEMENTS

Correlative Neuroanatomy. By JOSEPH J. McDONALD, M.S., M.Sc.D., M.D.; JOSEPH G. CHUSID, A.B., M.D.; and JACK LANGE, M.S., M.D. Fourth Edition, Revised. 60 Illustrations. University Medical Publishers, Palo Alto, California. 1947. 156 pages. Illustrated. Paper. Price $3.00.

The Healthy Hunzas. By J. I. RODALE. Rodale Press, Emmaus, Pennsylvania. 1948. 263 pages. Illustrated. Price $2.75.

War, Politics, and Insanity. By C. S. BLUEMEL, M.A., M.D., F.A.C.P., M.R.C.S. (Eng.) The World Press, Inc., Denver, Colorado. 1948. 121 pages. Cloth. Price $2.00.

Pioneer Life in Kentucky. 1785-1800. By DANIEL DRAKE, M.D. Edited from the original manuscript, with introductory comments and biographical sketch by EMMET FIELD HORINE, M.D. Henry Schuman, New York. 1948. xxix-257 pages. Illustrated. Cloth. Price $4.00.

Practical Bacteriology, Hematology, and Parasitology. By E. R. STITT, M.D., Ph.M., Sc.D., LL.D., Rear Admiral, Medical Corps, and Surgeon General, U. S. Navy, Retired; etc.; PAUL W. CLOUGH, M.D., Physician-in-Charge of the Diagnostic Clinic, Johns Hopkins Hospital; and SARA E. BRANHAM, M.D., Ph.D., Sc.D., Senior Bacteriologist, National Institute of Health; etc. Tenth Edition. The Blakiston Company, Philadelphia. 1948. 991 pages, 765 illustrations, and color plates. Cloth. Price $10.00.

How Laymen Cut Medical Costs. Public Health Institute, Chicago. 1948. 35 pages. Cloth.

Handbook of Ophthalmology. By EVERETT L. GOAR, A.B., M.D., F.A.C.S., Professor of Opthalmology, Baylor University College of Medicine, Houston, Texas. 166 pages. With 48 text illustrations and 7 color plates. Cloth. Price $5.50.

Textbook of Gynecology. By EMIL NOVAK, M.D., F.A.C.S., Assistant Professor of Gynecology, The Johns Hopkins Medical School; Gynecologist, Bon Secours and St. Agnes Hospitals, Baltimore. Third Edition. Baltimore, The Williams and Wilkins Company. 1948. xi-742 pages. Illustrated. Cloth. Price $8.00.

The exhaustion of the second edition of this authoritative work on gynecology and female endocrinology for gynecologists and general practitioners has given Dr. Novak an opportunity of making many minor changes and a few major additions including new illustrations, some of which are in color. The illustrations are excellent and those illustrating histological changes speak with authority because of the author's tremendous experience. I was interested in his discussion of habitual abortion. It may be due to deficient germ plasm or to a deficiency of progesterone. In the former no amount of treatment can save the present pregnancy. The patient and her husband should be treated for any demonstrable endocrinopathy such as hypothyroidism and measures should be taken to improve the general health. The author is noncommital on the value of vitamine E. When the abortion is due to deficiency in progesterone much can be done. The administration of progesterone is logical in such cases and the combination of estrogen and progesterone as recommended by Vaux and Rakoff is most promising. This has certainly been the reviewer's experience.

M. P. R.

Advances in Military Medicine. Science in World War II. Office of Scientific Research and Development. Made by American Investigators Working Under the Sponsorship of The Committee on Medical Research. Edited by E. C. Andrus, D. W. Bronk, G. A. Carden, Jr., C. S. Keefer, J. S. Lockwood, J. T. Wearn, M. C. Winternitz. An Atlantic Monthly Press Book. Little, Brown and Company, Boston, 1948. Volume I—liv-472 pages. Volume II—xvii-pages 473-900. Illustrated. Cloth. Price of two volumes $12.50.

These two volumes, compiled by the Committee on Medical Research, are part of a larger series published under the general title "Science in World War II", and constituting at least a partial record of the accomplishments of the Office of Scientific Research and Development. The totality of modern warfare is nowhere better demonstrated than in the totality of effort it demands of those who participate in any branch of the service. That medicine is no exception is evident from the subjects covered in the various papers here brought together.

The general topics include: Medicine, Surgery, Aviation Medicine, Physiology, Chemical Warfare, Anti-pest Agents, Malaria, and Penicillin. Under each of these headings are grouped a number of papers dealing with special problems. These are generally synoptic in nature; taken as a whole they are concise and readable. Individually, of course, they vary in interest and importance, but all represent a high order of scientific endeavor and accomplishment. Detailed criticism must be within the province of experts in the various fields.

Much of the material, most of it, in fact, carries over from military to civilian medicine with no diminution of importance. In peace as in war, such matters as shock, wound healing, antibiotics and malaria retain their interest. The chief criticism to be offered against these volumes is that they are too compressed, that they cover only a fraction of the work done by investigators on contract with the Committee on Medical Research, the list of whose publications covers nearly eighty pages. But for those who seek access to brief reviews of the most outstanding work and that of most general interest these are useful books, either for reference or just for browsing. The work they summarize is an interesting evidence of the extent to which medical resources can be mobilized in a free country when the occasion arises.

H. S. TALBOT

EDITORIALS

The Ninety-Seventh Annual Session of the A.M.A.

THE week of June 21st was a busy time for the 12,000 fellows of the American Medical Association who attended the annual session in Chicago. The final figures of the registration were expected to come within a thousand of the attendance last year at the Centennial Session at Atlantic City. The annual meetings have become such huge affairs that only three places in the country, Chicago, Atlantic City and San Francisco, have facilities for handling them. A commendable innovation this year, was the publication in the *Daily Bulletin* each morning of a summary of the scientific program for the day. It showed in tabulated form what was going on, morning and afternoon, in rooms 1, 2, 3, 4, 5, and 6 of the Navy Pier, Thorne Hall, the Ballroom and the Boulevard Room of the Sheraton Hotel, and the Assembly Room of the A.M.A. Building, as well as what was on television. Operations and Clinics of the Northwestern University School of Medicine could be viewed by some 1500 persons at the three stations by means of television. This service was made available by the co-operation of Northwestern University; the American Medical Association, the Radio Corporation of America, Passavant Hospital, and E. R. Squibb and Sons. The operation that caused the most comment was a cesarean section, in which the baby resisted resuscitation methods for some nine minutes.

The scientific and commercial exhibits were strung out for a country mile along the Navy Pier. Between the two was interposed the very beautiful showing of the American Physicians Art Association. The exhibits on atomic energy were outstanding. Experts were on hand to explain isotopes, heavy water and various forms of Geiger counters. There were demonstrations of the use of radioactive isotopes in experimental medicine. The Department of National Defense had an arresting display depicting the damage to animate and inanimate objects by atomic bomb explosions and the means that have been developed to aid a strickened community. The special exhibit of fresh pathologic material was unusually interesting. Each morning pans of fresh organs from the autopsy rooms of Chicago were put out on display for demonstration. We remember particularly some beautiful lesions of infantile scurvy. The exhibit of J. F. Herrick and E. J. Baldes of the Mayo Foundation, on ultrasonics in medicine "made" the Chicago newspapers, and the reporters dilated on the possibility of these high frequency sound waves destroying cancer tissue.

The second afternoon of the general scientific meetings was devoted to a discussion of atomic energy and medicine. Dr. Henry R. Viets was chairman. Mr. Lewis L. Strauss, formerly of Richmond but now with the Atomic Energy Commission in Washington, explained the legal setup of the Commission and the need for Federal control with the supervision of scientists. Dr. Paul Aebersold of Oak Ridge spoke on "The Isotopes and Medicine". At first the supply of these substances was limited, but now there is an abundance. The chief difficulty now is a dearth of technicians trained in this field and the special apparatus that is necessary. The Commission is anxious to have as wide a use of the isotopes as possible. He showed maps indicating the laboratories now using isotopes and gave figures of the shipments to these places.

Some had been sent to foreign countries. Dr. Joseph G. Hamilton of Berkeley, California, spoke on isotopes and internal radiation. Some of the heavy isotopes have a radio activity that lasts for years. Should some of these be absorbed and become located in bone tissue, they would play havoc with the bone marrow. The way they gain access to the body is through wounds, and no person with cuts or abrasions of the skin is allowed to work with them. The isotopes of lesser atomic weight have a short "half life" and can be used as tracers in the study of circulation and of metabolism. Dr. Stafford L. Warren of Los Angeles recounted his experiences in Hiroshima and Nagasaki. He went to Japan right after the bombing and studied the survivors. He gave a splendid clinical description of the radiation effects. Finally, Dr. Shields Warren, of Boston, discussed the medical program of the Atomic Energy Commission.

It was physically impossible, of course, to attend many of the section meetings. We attended all the sessions of the Section on Obstetrics and Gynecology. Goodrich C. Schauffler gave an interesting account of Obstetrics and Gynecology in China. Anemia is prevalent in China and yet the Chinese women stand blood loss without serious shock, which he explained by the fact that they have a much greater complacency than Western women, which is indeed fortunate, as blood for transfusion is available only to the wealthy. There was a panel discussion on endometriosis. The moderator, Joe V. Meigs of Boston emphasized the danger of postponing childbearing until late in life. He thought it would be wise to subsidize our young people so that they could afford to begin their families early rather than have them postpone pregnancy to a time when they could financially afford to have children. In the panel discussion on obstetric hemorrhage, the danger of infecting the patient with virus hepatitis by using pooled plasma, was stressed. The statement was made that 8 per cent of the population have asymptomatic hepatitis and that a patient receiving pooled plasma stood a 1 to 20 chance of developing homologous serum jaundice, which in itself carried a considerable mortality. This risk should be weighed against the immediate risk when faced with the need of using plasma when whole blood is not immediately available. The panel discussion on fetal anoxia at birth and cyanosis of the newborn was staged by both pediatricians and obstetricians. Several new terms were introduced. Dr. Clifford spoke of the yellow vermix syndrome which occurred when there was intrauterine distress. He also spoke of vermix edema of the lungs, a condition that clears up in three days under oxygen therapy. Dr. Zielzer showed pictures of the lungs with vermix membrane.

One of the most interesting papers of the joint session of the sections on pediatrics and obstetrics and gynecology was Dr. E. L. Kendig's report of two cases of Rh negative mothers who by history and every laboratory test should have continued to have erythoblastotic babies. For this reason abortion was advised in each case. This was refused and both mothers had normal healthy Rh negative babies.

It is with great pleasure that we note the election of Dr. Walter B. Martin of Norfolk to the Board of Trustees and Dr. Henry B. Mulholland of Charlottesville as a member of the Council on Medical Service. We are also pleased that Dr. Ernest E. Irons is the new President-Elect of the Association. The interim session will be held in St. Louis, November 30th to December 3rd.

The Cornelian Corner

THE June number of the *Journal of the Michigan State Medical Society* has an interesting article by Dr. Leo H. Bartemeier about a new society. The Cornelian Corner is a mental hygiene project which aims to promote better parent-child relationships. It was started in 1942 in Detroit by a pediatrician and a psychiatrist. The pediatrician was preoccupied with the difficulties which so many mothers experienced in connection with feeding and the care of their infants. In his effort to solve this problem he had broken with the orthodox procedures and had advised the mothers to feed their infants as often as they seemed to want nourishment and to let them have as much as they would take. The psychiatrist was concerned with severe mental disorders which stemmed from babyhood. He saw in the improved mother-child relationship a possibility of lessening the incidence of serious mental disorders of adult life. The intriguing name "Cornelian Corner", is derived from two sources: *Cornelian,* from the Roman matron who was famous for her pride in her children, and *Corner,* the place in the combination kitchen-living room where the old fashioned mother went to suckle her infant. She turned her back on the world and nursed her baby in peace and contentment.

The membership of the organization consists of pediatricians, obstetricians, nurses, chinical psychologists, nutritionists and such like. Article II of their constitution reads as follows: "*Purpose*—Believing that a program aimed at relief of the cultural tensions so frequently incident to feeding, toilet training, and child discipline, represents the nuclear approach to the problem of mental hygiene, we dedicate ourselves to such a program.

"The purpose of this association, therefore, shall be to promote healthy parent-child relationships.

"We will strive toward the achievement of the objective:

"1. Through research in the fields of child development and family life.

"2. Through the education of parents, especially expectant mothers and fathers, as to the basic needs of the developing child.

"3. Through the wide promulgation to professional groups of all pertinent information regarding the developing child and his environmental needs.

"(a) We will strongly advocate the abandonment of the artificial practice of separating the new born child from his parents.

"(b) With the conviction that it is advantageous to both mother and child, we will encourage the breast feeding of infants with opportunity to nurse whenever the infant is hungry or anxious."

Francis Henney Smith, 1881-1948

ON July 1st at his home in Abingdon, death came unexpectedly to Dr. Frank Smith, an ex-president of the Medical Society of Virginia and a leader in Southwest Virginia. Dr. Smith had been in poor health for several years, but was improving. When he attended the meeting of the Society last October he took an active part in the proceedings as was usual with him.

Francis H. Smith was born in Lexington, Virginia, April 12, 1881, a year noteworthy in medical annals for many other things. It was the year in which Leveran discovered the plasmodium of malaria and Koch his method of making plate cultures of bacteria. The following year Koch discovered the tubercle bacillus. Frank Smith was the son of the Rev. James Henderson Smith and Natalie Friend Smith. He was named for his grandfather, Gen. Francis H. Smith, the superintendent of the Vir-

ginia Military Institute. His father was a noted Presbyterian minister. In spite of this military and ecclesiastic background, Frank Smith always wanted to be a physician, an inspiration he received in his boyhood from the family doctor. With this in mind, he matriculated at Fredericksburg College where he graduated in 1899. He graduated in medicine at the University College of Medicine of Richmond in 1904. After an interneship at St. Luke's Hospital in Richmond, he located in Lewisburg, W. Va. He was engaged in the practice of medicine in this beautiful Greenbrier Valley, when in 1910 he was invited by Dr. George Ben Johnston and Dr. A. Murat Willis to take charge of a hospital they were starting in Abingdon. This hospital developed into the medical center for Southwest Virginia, and upon Dr. Johnston's death it became the George Ben Johnston Memorial Clinic. Except for an interval in World War I, when he was a medical officer, practically all Dr. Smith's professional life was devoted to the hospital in Abingdon. He was a fellow of the American College of Physicians, the American Medical Association and the Southern Medical Association. Since 1937 he has been a diplomate of the American Board of Internal Medicine. He was an ex-president of the Southwestern Virginia Medical Society. Dr. Smith represented the Ninth District on the Council of the Medical Society of Virginia for many sessions and was vice-president of the Society on several occasions, and in 1934-5 he was its president. For many years he was a member of the State Board of Medical Examiners and did yeoman service in that capacity.

Dr. Smith's achievements in the field of medicine did not preclude his interest in civic enterprises. He was the president of the Washington County National Bank and a past president of the Abingdon Rotary Club. He is survived by his wife and two children, a son and a daughter, and by four brothers, two of whom, James Henderson Smith and Philip Stephenson Smith, are well known physicians and members of the Medical Society of Virginia. He will be sadly missed in the deliberations of the Society and by his family and friends in Southwest Virginia.

SOCIETIES

The Buchanan-Dickenson County Medical Society

Held its regular monthly meeting at Grundy on June the 17th, with eleven physicians attending. After a business session at which time delegates and alternates were named for the State meeting, two moving pictures were shown—Iwo Jima, and the Battle of the Antarctic. Officers of this Society for 1948 are: President, Dr. J. P. Sutherland, Harman; vice-president, Dr. C. F. Johnston, Grundy; and secretary-treasurer, Dr. T. C. Sutherland, Haysi.

The Wise County Medical Society

Was entertained by the Appalachia and Big Stone Gap doctors at a banquet at the Monte Vista Hotel, Big Stone Gap, June 16th. At the business session, delegate and alternate to the State meeting were elected. Dr. Daniel D. Chiles, Radford, spoke on Therapeutic Procedures in Psychiatry Adaptable to General Practice, and Mr. Henry S. Johnson, director of Public Relations of the Medical Society of Virginia, spoke on Public Relations.

On August 18th, the Society will be guests of Drs. S. H. Rivers and J. H. Hagy, Abingdon, Dr. J. D. Culbertson, Coeburn, and Dr. Tudor, Norton, at the Hotel Norton.

Dr. C. H. Henderson is president of this Society and Dr. T. J. Tudor, secretary.

The Fauquier County Medical Society

Met in Warrenton on June 17th, and the following officers were unanimously re-elected: President, Dr. V. L. McCullers, Remington; vice-presidents, Drs. H. L. Townsend, Marshall, and W. G. Trow, Warrenton; and secretary-treasurer, Dr. J. Frank Folk, Warrenton. Delegate and alternate to the State Society meeting were also named.

NEWS

Annual Meeting, Medical Society of Virginia.

Plans are shaping well for the 101st meeting of the Society to be held in Richmond, October 18, 19 and 20, under the presidency of Dr. Guy R. Fisher of Staunton. To expedite business affairs and permit larger attendance at scientific sessions, it has been decided to have the Council meet on Sunday afternoon, the 17th, with the first meeting of the House of Delegates at 8:00 that evening.

In addition to addresses by the President's guests, there will be a panel discussion on Medical Care on Tuesday afternoon. It is hoped that motion picture films may be shown also, during the meeting and there will be luncheon or dinner meetings of special societies and alumni of the two Virginia schools. To avoid the implications of the old adage "All work and no play", there will be a banquet and special entertainment on Tuesday evening.

Make your hotel reservations now and help add to the success of the meeting by your attendance.

Fifty Year Awards.

Plans are now being made to honor those members of the Medical Society of Virginia who have been in practice for fifty years or more, and Dr. Wyndham B. Blanton was appointed by Dr. Fisher to make arrangements for appropriate recognition.

A number of other state societies, including Alabama, New York, Illinois, Indiana and Wisconsin, have instituted such awards, and their methods have been reviewed in an effort to select the best features that have been suggested.

It has been decided that the year of graduation from medical school would be used as a basis on which to determine length of service. In other words, graduates of 1898 or before would be eligible for fifty year awards during 1948. A list of these members is being prepared and the help of secretaries of local societies will be enlisted in its preparation.

The annual meeting of the Society in Richmond from October 18 through 20 has been selected as an appropriate time for the ceremony, at which certificates will be presented.

Further announcement on this subject may be expected.

American Medical Association.

At the 97th annual session of the Association held in Chicago from June 21-25, there was a registration of 11,963 Fellows, and with the doctors' wives and guests, exhibitors, and members of their families, etc., there was a total registration of nearly 22,000. Dr. R. L. Sensenich, South Bend, Indiana, succeeded Dr. Edward L. Bortz, Philadelphia, to the presidency, and Dr. Ernest Edward Irons, Chicago, was named president-elect. Other offices filled by the House were: Vice-President, Dr. Roy W. Fouts, Omaha; secretary, Dr. George F. Lull, Chicago (re-elected); treasurer, Dr. Josiah J. Moore, Chicago; speaker, Dr. Francis F. Borzell, Philadelphia; and vice-speaker, Dr. James R. Reuling, Bayside, N. Y.

Dr. Walter B. Martin, Norfolk, was elected to the Board of Trustees to fill the unexpired term of Dr. C. W. Roberts of Atlanta until 1951.

Dr. H. B. Mulholland, Charlottesville, was elected to the Council on Medical Service. He and Dr. J. M. Hutcheson were delegates from the Medical Society of Virginia.

The 1949 session of the A. M. A. will be held in Atlantic City, June 6-10, but the second annual interim meeting will be in St. Louis, November 30 to December 3, 1948.

Re-Appointed State Health Commissioner.

Dr. L. J. Roper has been re-appointed by Governor Tuck to a new four-year term as State Health Commissioner. He was first appointed to this position two years ago to fill the unexpired term of Dr. I. C. Riggin who resigned to return to private practice in Suffolk.

News from State Health Department.

Dr. H. D. Crow has been appointed Health Director of the Fredericksburg-King George-Stafford Health District, effective July 1. Dr. Crow has just completed his graduate work and received the degree of Master of Public Health at Johns Hopkins.

Dr. M. V. Bemis has resigned as Health Officer of the Buchanan-Tazewell Health District, effective July 1.

Miss Mary I. Mastin, who had served as Director of the Bureau of Public Health Nursing since January 1, 1932, resigned effective July 1. Her

successor is Miss Hazel Higbee, former professor of Public Health Nursing at the Medical College of Virginia.

Dr. W. H. Rumbel has recently been appointed Director of the Division of Mouth Hygiene. Dr. Rumbel comes to Virginia from West Virginia where he was Director of the Bureau of Dental Hygiene in the State Health Department there. Dr. George A. Nevitt, Dental Consultant of District Number 2 of the U. S. Public Health Service, has served in this capacity temporarily on loan from that service.

Dr. W. A. Browne, Director of the Bureau of Communicable Diseases, has resigned, effective August 1. Dr. Browne will become City-County Health Director of Evansville, Indiana.

Dr. Samuel D. Sturkie, former Lynchburg Health Director, has taken office as director of the Charlottesville-Albemarle Health Department.

Miss Estelle Marks has been appointed as State Registrar of Vital Statistics. She has been serving as acting registrar since the death of Dr. W. A. Plecker.

Officers of State Board of Medical Examiners.

At the meeting of the Board in June, Dr. Guy W. Horsley, Richmond, was named president; Dr. C. L. Riley, Winchester, vice-president; and Dr. K. D. Graves, Roanoke, re-elected secretary-treasurer.

Dr. O. L. Huffman,

Class of '38, University of Virginia, who formerly practiced at Arvonia, has located at Marshall where he is associated with Dr. Henry L. Townsend. Dr. Huffman has been elected to membership in the Fauquier County Medical Society and also to the staff of the Physicians' Hospital at Warrenton.

Johnston-Willis Hospital Completes New Addition.

The new 75-bed addition to Johnston-Willis Hospital, Richmond, has been opened for use and has been named Tompkins Pavilion in memory of the late Dr. James McCaw Tompkins. This addition increases the hospital capacity to 225 beds and makes it the largest private hospital in the State. The wing is located back of and parallel with the main hospital building with which it is connected by a long brick corridor. The basement houses an emergency room and out-patient department; the second and third floors are given over to obstetrical patients; and the first floor is for general work.

New Films Available.

The first of a series of scientific motion picture films on various phases of endocrinology was recently released by Schering Corporation, Bloomfield, New Jersey. The subject of this film is "The Physiology of Normal Menstruation". This is completely animated in color and available with or without sound. It may be obtained free of charge for showing before interested groups by writing to the Medical Service Department of Schering.

Wyeth announces the availability of a new film "The Use of Digitalis in Heart Failure". It is 16 millimeter, with sound and color; 1200 feet, with a showing time of approximately 35 minutes. It may be obtained from the Wyeth Incorporated Film Library, 1600 Arch Street, Philadelphia 3.

Richmond Health Department Changes.

Dr. Paul W. Bowden, recently director of the school health program in Arlington County, has been appointed as chief of communicable and venereal disease control for the Richmond Department of Public Health. He held the position as director of communicable disease control for this department from 1942 to 1944.

Dr. L. D. Policoff has been appointed as head of the new medical service program for city employees. This service will provide first aid for city workers who become ill or are injured while on duty; pre-employment physical examinations; and nurse visits for a worker who is absent because of sickness.

Married.

Dr. Willis M. Sprinkle, Marion, and Miss Irma Chappell, Miami, Florida, June 27th.

Dr. Claude Gibson Hooten, Jr., Lynchburg, and Miss Martha Anne Jackson, Dade City, Florida, June 20th.

New Coroners Appointed.

Dr. Herbert S. Breyfogle, chief medical examiner of Virginia, has announced the following new appointments: Drs. C. L. Coleman and Ernest B. Carpenter as additional coroners for the City of Richmond; Dr. John M. Ratliff as coroner of South Norfolk and Norfolk County to succeed Dr. L. C. Ferebee, resigned; Drs. D. E. Watkins and S. G. Saunders as coroners of Waynesboro; Dr. Guy C.

Richardson for Bristol; Dr. W. S. Nicklin, Jr., for Fauquier County; and Dr. N. P. Snead, Cartersville, for Cumberland and to serve also in Powhatan and Goochland Counties; Dr. E. R. Grether for Alexandria; Dr. B. J. Atkinson for Greenesville County; Dr. R. M. Shelton for Spotsylvania County; and Dr. C. D. Moore for Wythe County.

News From Jefferson Medical College.

Dr. Joseph O. Crider, Assistant Dean, has been promoted to Professorship in Physiology. He was serving as an Assistant Professor in the Physiology Department at the time of his promotion to Professorship. Dr. Crider is an alumnus of the University of Virginia.

Dr. Nicholas A. Michels has been promoted from an Associate Professor in the Anatomy Department to Professorship in Anatomy.

Dr. Andrew Jackson Ramsay has been promoted from Associate Professor to Professorship in Histology and Embryology.

Dr. Peter A. Herbut has been promoted to Professorship in Pathology. He succeeds Dr. Virgil Holland Moon who retired at the end of this School year. He was serving as an Assistant Professor in the Pathology Department at the time of his promotion to Professorship.

Dr. George Allen Bennett has been promoted to Professorship in Anatomy and Director of the Daniel Baugh Institute of Anatomy of the College, succeeding Dr. J. Parsons Schaeffer, who retired at the end of this school year, June 1948.

Dr. Clarence S. Livingood, has been appointed to Professorship in Dermatology. He is succeeding Dr. Frank Crozer Knowles whose retirement becomes effective at the end of the school year. Dr. Livingood served as Assistant Professor of Dermatology and Syphilology at the University of Pennsylvania.

Gill Spring Graduate Clinic.

The Twenty-Second Annual Spring Graduate Course will be held April 4-9, 1949 at the Gill Memorial Eye, Ear, and Throat Hospital, Roanoke.

Among the guest speakers for the meeting, there will be:

Dr. W. W. Eagle, Durham, N. C.
Dr. A. C. Jones, Boise, Idaho
Dr. E. P. Fowler, Jr., New York
Dr. J. S. Lundy, Rochester, Minn.
Dr. Henry Williams, Rochester, Minn.
Dr. E. W. Sheldrup, Iowa City, Iowa
Dr. Carl C. Johnson, Boston
Dr. Bernard Samuels, New York
Dr. W. B. Clark, New Orleans
Dr. Banks Anderson, Durham, N. C.
Dr. Glen G. Gibson, Philadelphia
Dr. Harold Brown, New York

Dr. C. H. Henderson,

Norton, announces the opening of an Orthoptic Clinic in conjunction with his practice of Ophthalmology. The technician in charge will be Miss Ruby Hall who has just completed a nine months training course at the Wilmer Ophthalmological Institute of the Johns Hopkins Hospital, Baltimore.

Dr. Hack U. Stephenson, Jr.,

Is now located at the Veterans Hospital, Swannanoa, North Carolina. He has recently been at Kecoughtan, Virginia.

Dr. W. R. Chitwood,

For the past year at Clifton Forge, is now located in Wytheville with office at the Chitwood-Moore Clinic.

The American Congress of Physical Medicine

Will hold its twenty-sixth annual scientific and clinical session Sept. 7-11 inclusive, at the Hotel Statler, Washington, D. C. All sessions will be open to members of the medical profession in good standing with the American Medical Association. The annual instruction courses will be offered in two groups. One set of ten lectures will be based primarily on physics and physiology and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapists. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

Dr. John R. Kight,

Norfolk, announces the removal of his office to 1204 Colonial Avenue, where he will limit his practice to obstetrics and gynecology.

Dr. Harry W. Hollingsworth,

Formerly of Derby, more recently of Sebring, Fla., is now located in Breckenridge, Texas, where he is engaged in general practice with special attention to obstetrics.

Dr. Emmett V. Richardson.

Since his release from the Army two years ago, Dr. Richardson has been taking post-graduate work in Ear, Nose and Throat at the University of Pennsylvania and Episcopal Hospital, Philadelphia. He will re-open his office in Marion about August 1st with his practice limited to Eye, Ear, Nose and Throat.

Research Fellowships.

The American College of Physicians announces that a limited number of Fellowships in Medicine will be available from July 1, 1949-June 30, 1950. These Fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in Internal Medicine. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice and that he will be provided with the facilities necessary for the proper pursuit of his work. The stipend will be from $2,200 to $3,200.

Application forms will be supplied on request to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa., and must be submitted in duplicate not later than November 1, 1948. Announcement of the awards will be made as promptly as is possible.

Dr. W. W. Zimmerman,

Purcellville, has joined the staff of the Medical College of Virginia Hospital where he is doing special work. Dr. Keith M. Oliver of Lynnhaven will be established in Dr. Zimmerman's office during his absence.

Dr. Ennion S. Williams,

Medical Director of the Life Insurance Company of Virginia, Richmond, has been elected vice-chairman of the medical section of the American Life Convention.

Dr. William F. Grigg, Jr.,

Richmond, class of '42, Medical College of Virginia has assumed his new duties as a member of the staff of the City Hospital in Asheville, North Carolina.

Dr. H. R. Coleman,

Class of '29, University of Virginia, who has been practicing in Wilmington, N. C., has located in Lynchburg where he will specialize in diseases of the eye, ear, nose and throat.

Dr. John Sargent Morris, Jr.,

Class of '43, Medical College of Virginia announces the opening of his office at 3610 Fort Avenue, Lynchburg, with practice limited to diseases of infants and children.

Dr. Edwin J. Palmer,

Roanoke, announces the removal of his office to 1102 South Jefferson Street, that city. He is specializing in psychiatry and neurology.

Dr. A. L. Herring, Jr.,

Richmond, has returned to the Lahey Clinic, Boston, for further surgical training where he will be for from six to twelve months. He spent six months at the Clinic in 1944 and since then has been associated with his father, Dr. Herring, Sr., at Grace Hospital, doing general surgery.

Splendid Opening

For young doctor to take over lucrative practice in town of 3,000 population. Large agricultural community, nice eight-room office, fully equipped—formerly occupied by doctor doing general practice for twenty-five years. If interested, write Harrison Drug Company, Enfield, N. C. (*Adv.*)

OBITUARIES

Dr. Francis H. Smith,

Former president, councilor and member of many committees of the Society, died July 1, at his home in Abingdon. Editorial note of his passing is made in this issue of the Monthly.

Dr. Rufus L. Raiford,

Prominent physician of Southside Virginia, died in his sleep at his home in Franklin, on the night of June 25. A native of Southampton County, he moved to Franklin in 1925 after nearly twenty years of rural practice. Dr. Raiford was sixty-seven years of age and a graduate from the former University College of Medicine, Richmond, in 1906. With the help of his wife, he established the Raiford Hospital in 1929 and was actively engaged in its operation until a year ago when he retired because of failing health. This will truly be a memorial to his medical service. He was for many years secretary of the Southside Virginia Medical Association until its consolidation with the Fourth District Medical Society, and had always been actively interested in the Medical Society of Virginia. Besides his wife, he is survived by two sons, Drs. Morgan and Fletcher Raiford and a number of relatives.

Dr. Joseph A. Rucker,

Prominent physician of Bedford, died June 29th after an illness of several months. He was seventy-seven years of age and a graduate of the University of Louisville in 1893. Dr. Rucker was former resident physician of the National Elks Home and the Randolph Macon Academy. He was a surgeon of the Norfolk and Western Railway and received his gold pin for fifty years service last year. He was chairman of the Bedford Board of Health and had taken an active part in civic and medical organizations. Dr. Rucker had been a member of the Medical Society of Virginia for fifty-one years. Four children survive him.

Dr. Julian McGruder Robinson,

Well-known physician of Danville, died June 28th after an illness of three years. He was seventy-three years of age and a graduate of the former University College of Medicine, Richmond, in 1899 Dr. Robinson had practiced surgery in Danville for forty-five years and was for many years on the staffs of Memorial Hospital and Edmunds Hospital. He had been a member of the Medical Society of Virginia since 1903. His wife and two sons survive him.

Colonel Benjamin Beckham Warriner,

M.C., U.S.A., retired, died at Walter Reed Hospital on March 6th after a prolonged illness. He was a native of Burkeville and seventy-four years of age. Dr. Warriner graduated from the former University College of Medicine, Richmond, in 1896 and practiced for some time at Newport News, following which he served as a contract physician in the Philippines for eight years. He was commissioned in the Medical Reserve Corps of the U. S. Army in 1908 and entered the regular Medical Corps in 1930. Since his retirement in 1937, Dr. Warriner had made his home in San Antonio. He had been a member of the Medical Society of Virginia since 1897. His wife and two children survive him. A brother is Dr. W. R. Warriner of Crewe.

Dr. Charles Wallace Sale,

Retired Colonel of the U. S. Army Medical Corps, died in Fredericksburg on July 10th. He was sixty-three years of age and a graduate of the former University College of Medicine, Richmond, in 1907.

Dr. Taliaferro Clark,

Former assistant surgeon-general of the United States Public Health Service, died July 3rd, at the age of eighty-one. He was a native of Fauquier County, Virginia, and a graduate of the University of Virginia, Department of Medicine, in 1890.

Dr. Robert Richard Lee.

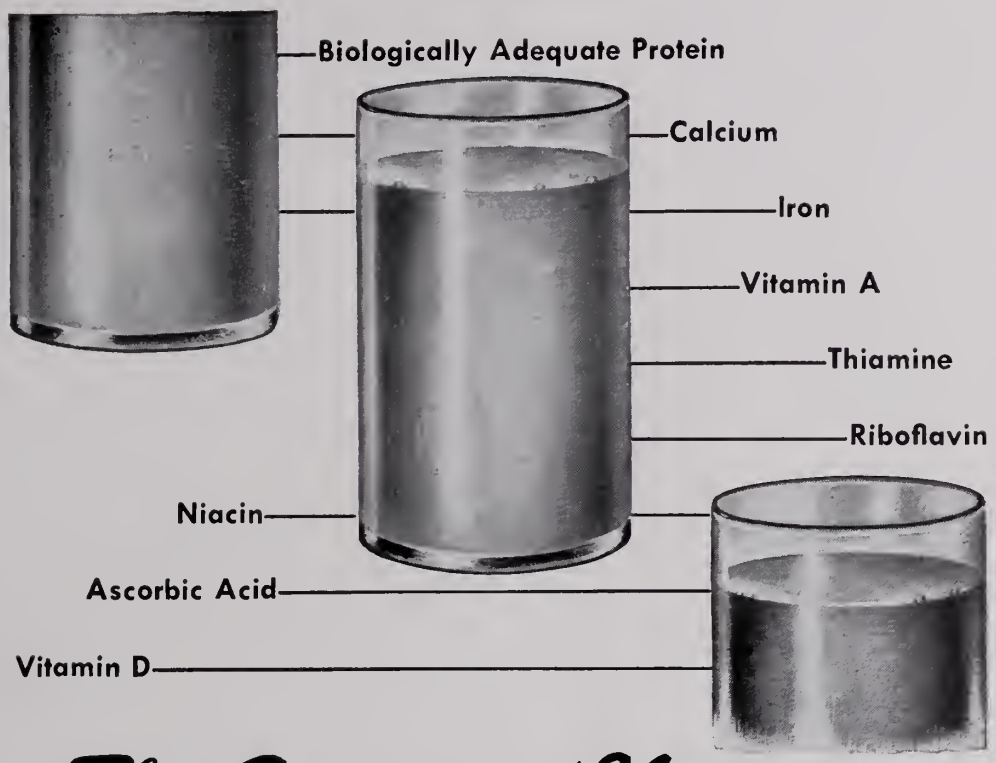
WHEREAS, Dr. R. R. Lee has ended his earthly labors and passed on to the reward awaiting all good physicians; and whereas, for fifty years Dr. Lee made distinct contributions to the practice of medicine in our county and was a valued member of our Society.

BE IT THEREFORE RESOLVED; First: That we express our sympathy to his widow and child.

Second: That we extol his faithfulness and devotion to the profession.

Third: That a copy of these Resolutions be sent to his widow, the Medical Society of Virginia, the newspaper of this county, and that they be spread on the minutes of the Patrick Henry Medical Society.

F. B. TEAGUE
J. A. SHACKELFORD
H. G. HAMMOND



The Gamut of Nutrients

When the need for dietary supplementation arises, the delicious food drink made by mixing Ovaltine with milk finds wide application. This dietary supplement provides generously of all nutrients considered necessary, in balanced proportion for optimal utilization. Three glassfuls daily, in conjunction with even an average diet, raises the intake of essential nutrients to optimal levels.

Its appealing taste and easy digestibility virtually assure patient acceptance, as well as consumption of the recommended three glassfuls daily.

Ovaltine finds valuable use pre- and postoperatively, following recovery from infectious disease, in pregnancy and lactation, in pediatrics in the management of food-resistant children, and to supplement restricted dietaries whether prescribed or self-imposed as a result of food aversions and idiosyncrasies.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.

Ovaltine

Three servings daily of Ovaltine, each made of ½ oz. of Ovaltine and 8 oz. of whole milk,* provide:

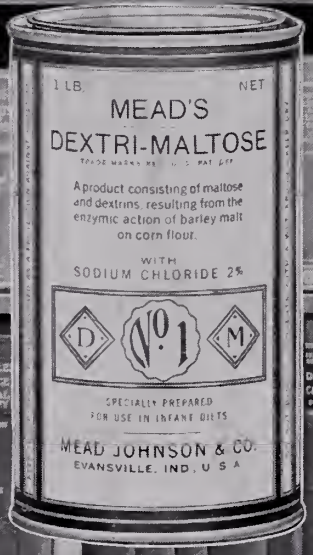
CALORIES	669	VITAMIN A	3000 I.U.
PROTEIN	32.1 Gm.	VITAMIN B_1	1.16 mg.
FAT	31.5 Gm.	RIBOFLAVIN	2.00 mg.
CARBOHYDRATE	64.8 Gm.	NIACIN	6.8 mg.
CALCIUM	1.12 Gm.	VITAMIN C	30.0 mg.
PHOSPHORUS	0.94 Gm.	VITAMIN D	417 I.U.
IRON	12.0 mg.	COPPER	0.50 mg.

*Based on average reported values for milk.

BACKGROUND

The use of cow's milk, water and carbohydrate mixtures represents the one system of

infant feeding that consistently, for over three decades, has received universal pediatric



recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

THE N.Y. ACADEMY OF MEDICINE
SEP -8 1948
LIBRARY.

Virginia
MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

The Use of Early Rising and Early Ambulation Following Surgical Operations. Herbert C. Lee, M.D., Richmond, Va. ---------- 435

Recent Trends in Obstetrics. Brock D. Jones, Jr., B.S., M.D., Norfolk, Va. ---------- 444

The Use of Vitamin E in Menopausal Syndrome. Homer E. Ferguson, M.D., Richmond, Va. ---------- 447

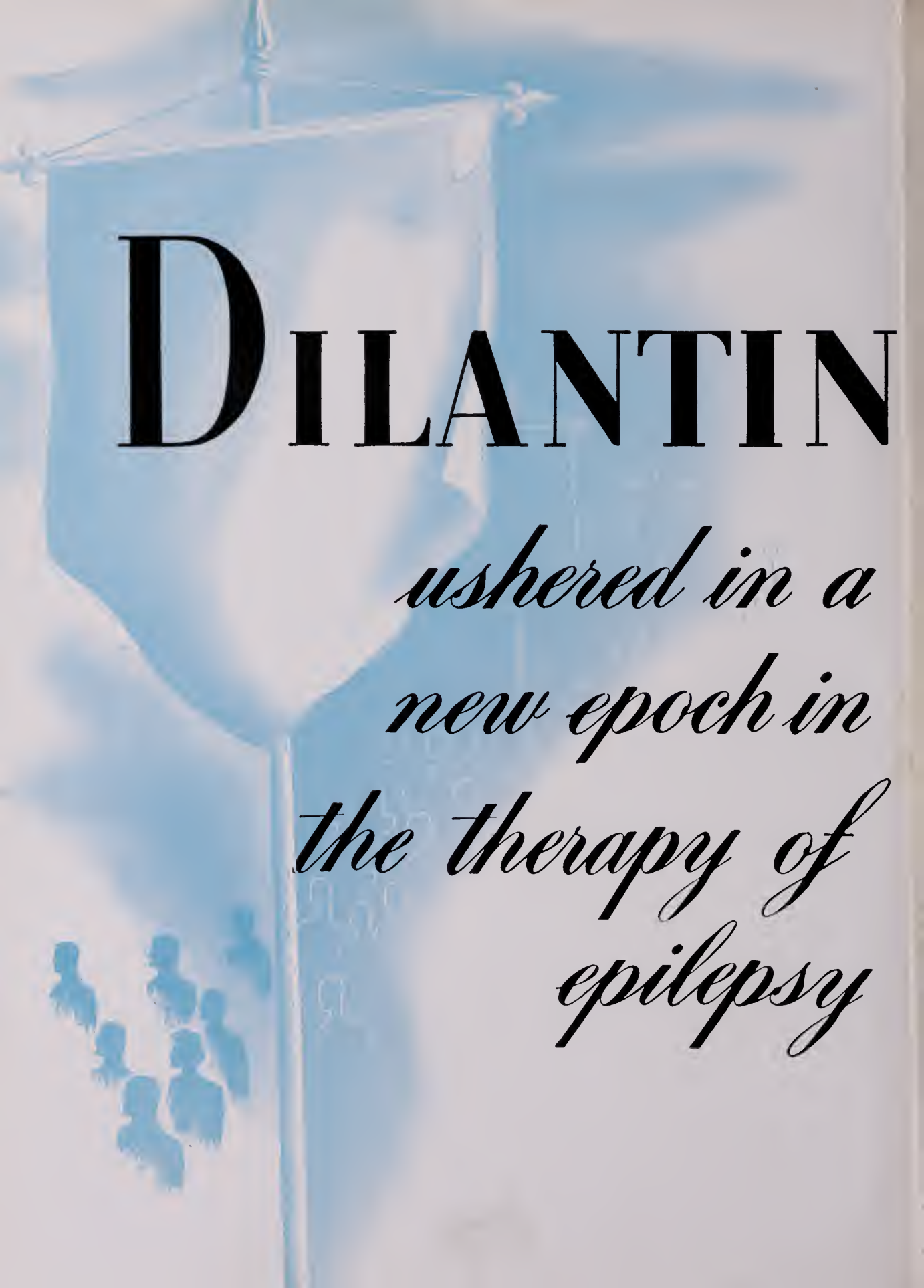
The Significance of Paralysis of the Larynx Its Surgical Correction in Bilateral Cases. Fletcher D. Woodward, M.D., Charlottesville, Va. ---------- 449

Psychosomatic Medicine. John F. Williams, M.D., Richmond, Va. ---------- 452

Continued on page 6.

Program Number
Medical Society of Virginia
Richmond, October 18-20, 1948

September, 1948


DILANTIN
ushered in a
new epoch in
the therapy of
epilepsy

Reasons why all ~~three~~ 4 prefer BAKER'S MODIFIED MILK for the bottle-fed infant . . .

THE PHYSICIAN who has had experience with Baker's Modified Milk finds that in most cases this completely prepared infant food satisfies all requirements, from birth to the end of the bottle-feeding period. No change of formula is required—just increase the quantity—as the baby grows older.

THE HOSPITAL NURSE is pleased when the doctor prescribes Baker's Modified Milk because Baker's is simple to prepare for feeding—just dilute with water, previously boiled.

THE MOTHER is delighted because Baker's Modified Milk reduces the possibility of error . . . can be fed by anyone capable of adding the right quantity of water . . . and because Baker's, in powder form, is so convenient to use when she takes baby away from home.

AND THE BABY shows appreciation in the form of steady growth and health.

- Baker's Modified Milk is a completely prepared food that closely conforms to human milk in nutritional results . . .
- . . . is well tolerated by both premature and full-term infants . . .
- . . . may be used either complemental to or entirely in place of human milk . . .
- . . . is helpful in correcting regurgitation, constipation, loose or too-frequent stools . . .
- . . . is advertised only to the medical profession.

Just leave instructions at the hospital. The obstetrical supervisor will be glad to put your next bottle-fed infant on Baker's Modified Milk.

POWDER

Start with either and change from one to the other, to suit individual requirements. Powder form is especially convenient when traveling.

LIQUID

• Baker's Modified Milk is made from tuberculin-tested cows' milk in which most of the fat has been replaced by animal and vegetable oils with the addition of lactose, dextrose, gelatin, iron ammonium citrate, vitamins A, B1 and D. Not less than 800 units of vitamin D per quart.

Complete information and samples gladly sent to physicians on request

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

BAKER'S MODIFIED MILK

The Baker Laboratories, Inc., Cleveland, Ohio Division Offices: San Francisco, Los Angeles, Denver, Seattle, and Greensboro, N.C.

In the Conservative Treatment of

The Lumbosacral and Lower Lumbar Regions

CAMP SUPPORTS offer advantages

...Give firm support to the low back; the support is easily intensified by re-inforcement with pliable steels or the Camp Spinal Brace.

...Afford a more stable pelvis to receive the superincumbent load.

...Allow freedom for contraction of abdominal muscles under the support in instances of increased lumbar curve (fig. 1).

...Are removed easily for prescribed exercises and other physical procedures prescribed by physiatrist or physician.

FIGURE 1 — Patient — thin type of build with beginning faulty body mechanics. The Camp adjustment provides a more stable pelvis, allowing patient to "draw in" the abdominal muscles thus gradually acquiring a gentle lumbar curve.

FIGURE 2 — Patient — intermediate type of build. Strain of lumbosacral joint predisposes to other strains. For protection of the joints in the lumbar region from recurrent strain and also as an aid in relieving the pain of acute conditions, Camp lumbosacral supports have proved effective.

S. H. CAMP AND COMPANY • JACKSON, MICHIGAN

World's Largest Manufacturers of Scientific Supports

Offices in New York • Chicago • Windsor, Ontario • London, England

SIMULTANEOUS PROTECTION

HIGHLY PURIFIED

FEWER INJECTIONS

REDUCED ALUM CONTENT

SMALLER DOSAGE

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

3 DIPHTHERIA AND TETANUS TOXOIDS, ALUM PRECIPITATED, AND PERTUSSIS VACCINE COMBINED

Only three 0.5 cc. injections are necessary at intervals of 4 to 6 weeks.

Single immunization package, containing three 0.5 cc. single dose vials.

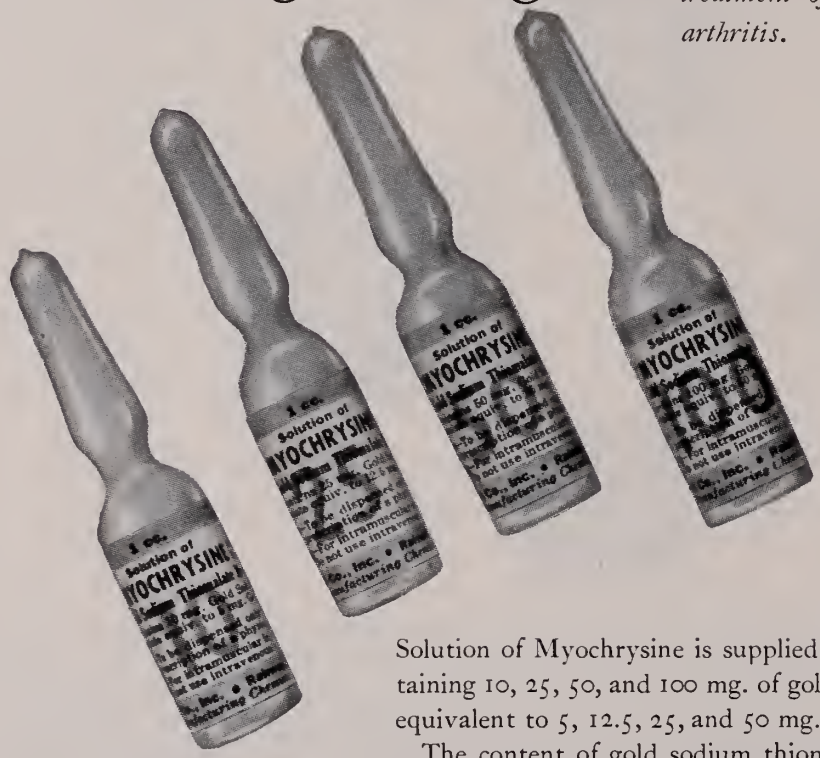
Five immunizations package, containing three 2.5 cc. (Multiple dose vials)

THE NATIONAL DRUG COMPANY, PHILADELPHIA 44, PA.

MANUFACTURERS OF PHARMACEUTICAL, BIOLOGICAL AND BIOCHEMICAL PRODUCTS FOR THE MEDICAL PROFESSION

4 Convenient Dosage Strengths

The consensus of clinicians who have had considerable experience with aurotherapy is that gold, despite its recognized toxicity, appears to be the most effective single agent available for the treatment of active rheumatoid arthritis.



Solution of Myochrysine is supplied in 1 cc. ampuls containing 10, 25, 50, and 100 mg. of gold sodium thiomalate, equivalent to 5, 12.5, 25, and 50 mg. of gold.

The content of gold sodium thiomalate is indicated in large numerals on the label of each ampul, in order that the physician may readily distinguish the desired dosage strength.

SOLUTION OF

Council MYOCHRYSINE® *Accepted*

(Solution Gold Sodium Thiomalate Merck)

for the treatment of active rheumatoid arthritis

MERCK & CO., Inc. RAHWAY, N. J.

Manufacturing Chemists

MERCK

Virginia Medical Monthly

Vol. 75, No. 9
WHOLE No. 1155

RICHMOND, VA., SEPTEMBER, 1948

$2.00 A YEAR
25 CENTS A COPY

THE USE OF EARLY RISING AND EARLY AMBULATION FOLLOWING SURGICAL OPERATIONS*

HERBERT C. LEE, M.D.,
Richmond, Virginia.

Early ambulation following surgical operation is rapidly being accepted as an essential feature of modern postoperative care. The literature in its favor is gradually being built up by reports from surgeons and clinics in all parts of the country. Although the present enthusiasm for getting patients out of bed in the first 24 hours after operation has been a development of the last decade, Emil Ries,[1] a Chicago gynecologist, actually advocated its use in 1899. Leithauser and Bergo[2] in 1941 reported a series of appendectomies with an average postoperative confinement to bed of 1.5 days. Two years later Leithauser[3] reported a larger series of major operations, all of which were ambulated within the first 24 hours. In 1943 Newburger[4] reviewed the literature on early rising and the advantages of the procedure seemed so obvious that there is little wonder that the idea began to take hold at that time.

The early objections to this new regime were based on fear of consequences, fear of public and professional opinion, lack of confidence in absorbable sutures, and the mistaken belief that rest in bed was essential to proper wound healing. The fear of consequences was soon overcome by the weight of published statistics. Public opinion swung in favor of the surgeon who used early rising, as more and more patients were so treated. Confidence as to the healing of wounds sutured with non-absorbable materials was increased by the report of Nelson and Collins[5] in 1942 on the use of cotton suture material. Although a variety of suture materials are recommended in conjunction with early rising, non-absorbable sutures, silk, cotton, and stainless steel wire seem to produce the best results.

*Presented at the annual meeting of the Medical Society of Virginia at Roanoke, October 13-15, 1947.

From the Department of Surgery, Medical College of Virginia, Richmond, Virginia.

Newburger[6] showed that wounds healed more firmly in rats which were exercised than in a control series whose activities were restricted. This study confirmed a similar and previous report on wound healing in dogs by Kimbarovsky.[7] The fact that wounds in infants and children, who cannot be kept quietly in bed after operation, heal firmly in spite of activity is confirmatory evidence that immobilization is not necessary to proper healing of soft tissue wounds.

When early rising was tried in the past, it frequently met with failure because so little was known of the postoperative care of surgical patients. Its use now is not advocated as a panacea for all surgical ills or as a substitute for the generally accepted and proven features of surgical technic and pre- and postoperative care. Early rising is successful because of the gentle and accurate reconstruction of wounds, the use of anatomic incisions, strict asepsis and antisepsis, adequate preoperative preparation of the patient, intestinal intubation, modern anesthesia, maintenance of fluid balance, and the replacement of blood and plasma loss by transfusions. All of these factors, including early rising, are based on sound physiologic and anatomic principles.

Some of the hazards of bed rest are well known. There are many who believe that bed rest is responsible for a marked increase in postoperative pulmonary and vascular complications.[5,11,12,13,14,15] Rehm believed that the bed was a veritable breeding place for postoperative complications. Churchill and McNeil[8] showed that there was a definite decrease in minute volume respiratory exchange in postoperative patients and Beecher[9] showed that this reduction was more pronounced in the first 24 hours. Leithauser[3] and Powers[10] showed that there was a decreased vital capacity in recumbent patients.

Along with the reduced vital capacity, there is hypoventilation due to the relative fixation of the diaphragm in a high position, and a diminution of the cough reflex. There is a pooling of the tracheobronchial secretions in the terminal alveoli, which plays a major role in the development of atelectasis and pneumonia. Exercise eliminates many of these factors as it increases the volume of tidal air, raises the oxygen tension in the alveolar spaces, and increases the oxygen saturation of the arterial blood. The erect position improves diaphragmatic function and deep breathing and forced coughing rid the bronchioles of mucous plugs. Schafer and Dragstedt,[13] among others, have reported a series of cases in which postoperative pulmonary complications were virtually eliminated by early rising.

There is a reduction in blood flow during recumbency resulting from a decrease in muscular activity and a decreased vascular tone.[16] The physiologic mechanisms involved in this reduction are diminished cardiac output, a venous pressure deficit, a blood volume deficit, and a decrease in the reserve of the veno-pressure mechanisms. A decreased venous return associated with stasis in the deep veins of the leg is considered by many to be of prime importance in the development of postoperative thrombo-embolic phenomena, although there are admittedly other factors to be considered. Frykholm[17] believes that pressure of the collapsed deep veins of the leg on the bed surface results in an endothelial damage which predisposes to later thrombosis. If bed rest is carried out until this damage and stasis have occurred, a condition that may take place in the first 24 to 48 hours, then rising to an erect position will dilate the collapsed veins and dislodge the already developed clot. Obviously, the average postoperative patient must be ambulated early enough to distend the deep leg veins, and this process must be repeated at frequent intervals.

We know that muscular activity increases the venous circulation of the legs. Smith, Allen, and Craig showed that the circulation time from the ankle to the carotid sinus was decreased by elevation of the leg and by active exercise of the leg with the patient lying in bed.[18] The first two authors later showed that there was a significant increase in the foot-to-carotid circulation time, following operations.[19] Immediately after operations the time decreased, but two days after operation it was greater than the preoperative average. Since walking increases the venous return, these findings emphasize the importance of getting the patient out of bed if circulatory movement is to be promoted in the early postoperative period. Some writers believe that the development of thromboses is greatly minimized by early walking.[20]

In addition to increasing the postoperative pulmonary and vascular complications, lying in bed leads to impairment of appetite, distention, constipation, retention of urine, prostatism, bed sores, loss of muscle tone with atrophy, loss of calcium from the skeleton with calcinuria, and depression of morale.

From the many studies reported, as well as from our own observations, we know that early rising has many advantages. Besides lowering the incidence of postoperative complications, there is less postoperative pain, less nausea, vomiting and abdominal distention, and earlier return to normal of bladder and bowel functions, maintenance of normal muscle tone, less weight loss, a marked improvement in patient morale, more patient self-care and less nursing care, less financial loss to the patient because of shorter hospitalization and earlier rehabilitation, and, because of the more rapid turnover, more patients can be cared for with existing hospital facilities and personnel. This latter factor has placed a tremendous load on the already overworked operating room staff, since the total number of operations per month is governed solely by the operating time available.

We must also recognize that lying in bed is sometimes an inferior means of securing absolute rest to sitting quietly in a chair. Basal metabolism rate studies[21] show that the energy exchange while sitting in a chair is not appreciably higher than when lying in bed. The use of the toilet certainly entails less discomfort and danger than does the use of the bedpan. The difficulties resulting from the shortage of nurses has been materially alleviated by the increased use of early rising. The need for postoperative care and pain relieving hypodermics is greatly reduced.

We are all familiar with the usual postoperative picture: temperature and pulse elevation, listlessness, pain, nausea, weakness, inability to void, constipation, and a general spirit of helplessness. Those of us who practice early ambulation have found that many of these symptoms no longer exist. The extremely favorable impression which has been

made by early ambulation is purely clinical, and does not lend itself to expression by means of charts, graphs, or diagrams. Listening to a discussion of the benefits of early ambulation is a poor substitute for the experience of actually observing patients as they get up, walk about, care for themselves, and recover so rapidly. The effect on the patient himself is the final proof of the efficacy of the practice.

The technic of getting patients out of bed is modeled after Leithauser.[22] A scultetus binder is applied. The patient is turned on the side on which he has his incision. The hips and knees are flexed, thus bringing the knees and lower legs to the side of the bed. The back rest of the bed is raised so as to bring the patient to a sitting position on the side of the bed. The advantage of sitting up in this manner is that it allows the patient to sit up by using the flank muscles on the side opposite to his wound. While the patient is sitting on the side of the bed, his shoes or slippers with heels are put on, and then he stands on a foot stool or on the floor. While standing in this position he is encouraged to breath deeply and cough a few times. He then walks eight or ten steps to a chair. The first time up he is allowed to sit in the chair for ten minutes and then he returns to bed by reversing the method used in getting up. The second day he gets up twice, and by the fourth day he helps himself to get up as often as he desires.

We have employed early rising in patients who have had a variety of incisions, but we recommend a wider use of the transverse incisions (Figure 1). Since the fibers of the posterior rectus sheath run transversely, it is more physiologic to divide them in line with their course. We have used silk, silk and chromic catgut combined, or wholly catgut in the suture of wounds. We generally employ chromic catgut continuously in the peritoneal closure and interrupted non-absorbable sutures, either silk or wire, for the other layers of the abdominal wall.

We have been using early rising and ambulation to a certain extent for five years. We adopted it timidly at first when we had postoperative hernia patients stand at the bedside on the day of operation to void rather than to submit them to catheterizations. The practice was gradually widened to include virtually every type of operation performed on a general surgical service—thyroidectomies and other neck operations, mastectomies, thoracotomies for a varied group of operations, lumbodorsal and lumbar sympathectomies, celiotomies for practically every intra-abdominal operation, herniorrhaphies of all types, perineorrhaphies and colporrhaphies,

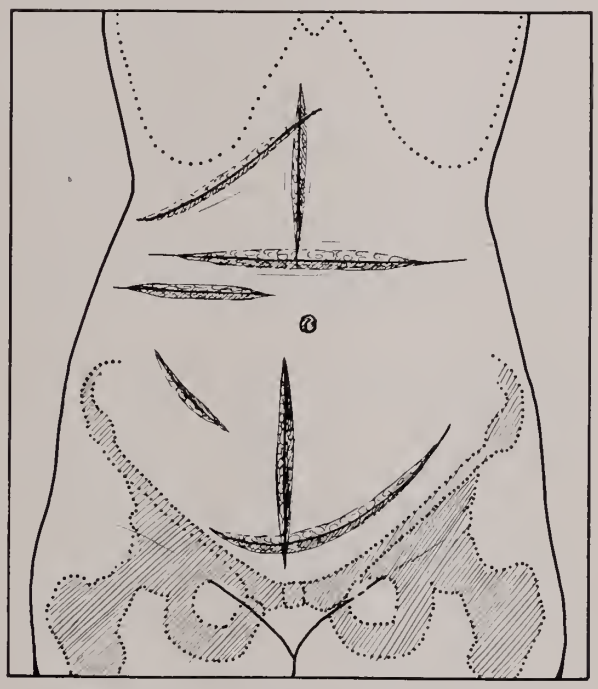


Fig. 1. Recommended abdominal incisions for use in early ambulation. From above downward: a. Subcostal, b. Upper right rectus or paramedian, c. Upper abdominal transverse, d. Right lateral transverse, e. McBurney, f. Lower abdominal rectus or paramedian, g. Modified Pfannenstiel.

and ligation of varicose veins. There seems to be no operation in which early rising is contraindicated except when any of the following conditions is present:

1. Prolonged preoperative bed rest
2. Cardiac insufficiency
3. Recent coronary attack
4. Shock
5. Severe anemia
6. Hemorrhage
7. Presence of thrombi or emboli
8. Difficult hernia repairs in patients having poor tissues
9. Delayed wound closure
10. Potential or actual wound complications, including gross contamination, infection, hemorrhage or dehiscence
11. Pregnancy in which abortion is feared

ANALYSIS OF CASES

In order to evaluate the advantages of early ambulation we studied several series of consecutive cases, comparing early ambulation patients with a control series of a similar number of consecutive patients having the same operation and who were kept in bed for the standard postoperative period. The early risers will be noted hereinafter as Group I and the control series as Group II.

Although the results were comparable in operations involving all areas of the body we have chosen for this report only those cases in whom abdominal incisions were employed. The results in every series studied were essentially the same in showing the effects of early ambulation. To avoid repetition this discussion will deal only with appendectomies, herniorrhaphies, upper abdominal operations including gall bladder and stomach operations, and pelvic operations, chiefly hysterectomies. In this manner we have representative cases having incisions in different sections of the abdominal wall. The cases were compared as to length of stay in the hospital, number of hypodermics, length of convalescence, number of catheterizations, number of pulmonary and vascular complications, and number of wound disruptions. Only patients who rose from bed either on the first or second postoperative day were considered in the group of early risers.

Appendectomy.—One hundred consecutive cases were studied in each group. The control series was made up of cases operated upon in the period immediately preceding the advent of early ambulation, but after the advent of the antibiotics, so as to make the series as nearly similar as possible.

All wounds in both groups were closed with chromic catgut for the peritoneum and fascia. Interrupted silk or cotton was used in the skin. Both spinal and general anesthesia were employed. All of the cases of early risers had left the hospital by the fifth postoperative day. Over half of these patients left the hospital on the second or third postoperative day and either came back to the hospital for suture removal on the sixth or seventh day, or were sent back to the referring doctor for this purpose. In none of these cases was there reason to regret this manner of treatment. Several of these cases were medical students who were attending classes on their fourth postoperative day. This regime coincides with the findings of Lauer and Kerr[23] in Naval trainees. In their group of appendectomies over 50 per cent were in Class on the third postoperative day and all were indulging in competitive swimming on the 14th day. (Table 1).

TABLE I

EFFECTS OF EARLY AMBULATION ON APPENDECTOMY PATIENTS

	Group I	Group II
Number of cases studied	100	100
Average age	19.9	22.2
Length of stay in bed	1.2	5.0
Length of stay in hospital	3.9	7.2
Length of convalescence	7.1	21.2
Number of hypodermics	2.1	5.4
Date diet resumed	1.9	4.6
Number of catheterizations	0.0	0.9
Number of complications	0.0	1.0

Herniorrhaphy.—All wounds in both series were repaired exclusively with silk sutures. Over 90 per cent of the cases were done under local anesthesia. One in each series had ether, four had spinal anesthesia and a few had sodium pentothal with or without associated local anesthesia. Our present regime is for all patients to be ambulated the day of operation, at least within the first eight hours. At this time the patient is allowed to void, take a few steps and return to bed. This process is repeated twice on the second day, and after that time the patient is allowed up as often as he desires. In this manner he is able to care for himself by the third day. Sutures are removed on the sixth day and the patient goes home on the seventh day. The only restriction placed on activity is in regard to lifting. Bilateral inguinal hernias were repaired in two stages, one week apart. We have the opinion that repairs done in this manner have less tendency to break down and cause recurrence. In this event, cases leave the hospital on the sixth day after the second side is repaired. Our results confirm those of Leithauser,[22] Shouldice,[24] and Trice[25] which indicate that ambulation after herniorrhaphy results in fewer recurrences and more rapid recovery. Patients are allowed to return to sedentary work after the initial office visit, which is two weeks after discharge. Many of them return to work before that time since they feel so well. (Table 2).

Upper Abdominal Operations.—Wounds in this series were subcostal, transverse, or upper rectus in type. A variety of sutures were used in each group, and all had general anesthesia, except for a few cases in which spinal anesthesia was used.

TABLE II

EFFECTS OF EARLY AMBULATION ON HERNIORRHAPHY PATIENTS

	Group I	Group II
Number of cases	100	100
Length of stay in bed	0.7	10.2
Length of stay in hospital	7.1	13.0
Length of convalescence	22.4	43.1
Number of catheterizations	0.1	1.7
Number of recurrences	0.0	2.0
Number of complications	1.0	4.0

Following cholecystectomy the patient is ambulated in the first 24 hours. He is not forced to sit in a chair on the first day, but is returned to his bed promptly after taking a few steps. He is encouraged to cough and breathe deeply while on his feet. The average hospital stay for patients in the early rising group is 8.5 days. The first office visit is ten to fourteen days after discharge and the patients are usually allowed to return to household or office duties after this visit. Heavy exercise is not allowed for four to six weeks. There are several cases in this series who defied orders and returned to active work in short order (Table 3).

TABLE III

EFFECTS OF EARLY AMBULATION ON CHOLECYSTECTOMY PATIENTS

	Group I	Group II
Number of cases studied	50	50
Length of stay in bed	1.0	11.2
Length of stay in hospital	8.5	12.9
Length of convalescence	28	*45
Average number of hypodermics	6.0	14.0
Date diet resumed	3.2	5.1
Number of complications	2.0	4.0
Increased temp. °F.	2.7	3.9
Number of days fever persisted	3.9	5.0

*Approximate.

Management of patients after gastric resection is similar to this regime except that the patients were not discharged quite so early (Table 4). The use of suction siphonage was not a contraindication to early rising. In general the suction was discontinued on the fifth day in both groups.

Hysterectomy.—Patients in this series followed our set routine. Spinal and general anesthesia were used in more or less equal proportions. In general patients left the hospital on the eighth day regardless of whether a total or a supracervical hysterectomy was done. There was no restriction in postoperative activity, including stair climbing, and all were back at work within a month after leaving the hospital. Many of them did light housework soon after returning home, although this was not advised (Table 5).

TABLE IV

EFFECTS OF EARLY AMBULATION ON GASTRECTOMY PATIENTS

	Group I	Group II
Number of cases studied	50	50
Length of stay in bed	1.3	12.4
Length of stay in hospital	11.1	14.7
Length of convalescence	35.0	*
Number of hypodermics	8.1	14.6
Date diet resumed	5.9	5.8
Number of complications	2.0	2.0
Increase in temperature °F.	3.1	3.4
Number of days fever persisted	6.0	6.7

*Data incomplete.

TABLE V

EFFECTS OF EARLY AMBULATION ON HYSTERECTOMY PATIENTS

	Group I	Group II
Number of cases studied	100	100
Length of stay in bed	1.2	10.1
Length of stay in hospital	7.3	12.4
Length of convalescence	30.0	---
Increase in temperature °F.	2.1	3.7
Number of days fever persisted	4.0	5.1
Date diet resumed	2.8	5.0
Number of hypodermics	3.1	9.4
Number of complications	1.0	4.0

Since many gynecologists and obstetricians[26] now practice early rising, we were interested to note that after perineal operations, our patients who were ambulated the day of operation and left the hospital within eight or nine days suffered no ill-effects from this regime.

EVALUATION

After using early ambulation exclusively for three years, we have made observations comparable with other previously reported series. There is less postoperative weakness and less wound tenderness. The incidence of postoperative pulmonary complications is decreased. The incidence of wound disruption is not increased. The hospital stay is markedly reduced (Tables 6 and 7, Chart 1). Although reports from Boston[14] and New Orleans[27] do not show a reduction in the incidence of thrombophlebitis and phlebothrombosis as a result of early ambulation, our results show that the incidence is lessened. That it does not eliminate this complication is definitely true. We have had one case of phlebothrombosis with pulmonary infarction in a patient who

had had a partial gastrectomy and who was ambulated on the second day. He recovered following bilateral superficial femoral ligations. We had another case who had had a pneumonectomy and was ambulated on his third day. On his seventh day, while in the bathroom, he was stricken with a pulmonary embolus which was fatal in a matter of minutes. Autopsy on this patient revealed a 15 cm. clot in his pulmonary artery. There had been no indication of phlebitic pathology at any time prior to this accident although his legs were examined daily for this complication. These two cases prove, nevertheless, that although we use early ambulation, the usual examinations for possible vascular complications should not be ignored.

TABLE VI
SUMMARY OF ALL CASES STUDIED

	Group I	Group II
Number of cases studied	400	400
Average stay in bed	1.03	9.28
Average stay in hospital	6.9	11.6
Complications	6.0	15.0

TABLE VII
COMPLICATIONS ENCOUNTERED IN 400 EARLY AMBULATION AND 400 BED REST CASES

	Group I	Group II
Atelectasis	2.0	7.0
Thrombophlebitis	2.0	4.0
Wound infection	1.0	2.0
Evisceration	0.0	1.0
Cerebral thrombosis	1.0	0.0
Pulmonary embolus	0.0	1.0
TOTALS	6.0	15.0

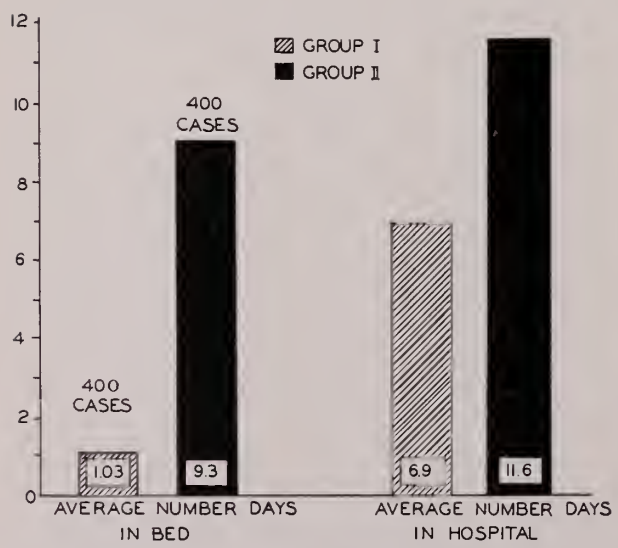


Fig. 2. Comparison of early ambulation patients with immobilized patients as to average length of stay in bed and average length of stay in hospital.

Early rising no longer needs the test of time. In fact, there are very few surgeons who have not begun ambulating their patients as early as possible after operation. Obstetricians[28 and 29] have shown that no harm comes from getting patients out of bed early in the puerperium. Internists,[30] too, have realized the dangers of bed rest in the treatment of chronic medical diseases, and some have radically altered the duration of bed rest in patients following acute coronary disease. Another milestone in the care of the sick has been passed. Early ambulation now takes its place beside the other accepted features of modern surgical care.

SUMMARY

1. The advantages of early ambulation and the disadvantages of bed rest have been enumerated.

2. A consecutive number of cases treated with early ambulation are compared with a similar number of consecutive cases treated with bed rest.

CONCLUSIONS:

1. Early ambulation is a safe and sound practice.
2. The advantages of early ambulation are:
   a. Decrease in postoperative pain
   b. Decrease in pulmonary complications
   c. Decrease in vascular complications
   d. A quicker return to normal bladder and bowel functions
   e. A lower postoperative temperature rise and quicker return to normal temperature
   f. Less nausea, vomiting, and abdominal distention
   g. Less weight loss
   h. Maintenance of normal muscle tone
   i. Improvement of patient morale
   j. A shorter hospital stay
   k. Acceleration of convalescence
   l. No increase in wound complications
   m. A marked economic saving to the patient
   n. Ability to care for more patients with existing hospital personnel.
3. We, as surgeons, no longer have the right to keep postoperative patients in bed except under certain well defined circumstances.
4. Bed rest and immobilization should no longer be viewed with complacency.
5. The situation caused by the existing shortage of hospital beds has been greatly alleviated by the increasing use of early ambulation.

BIBLIOGRAPHY

1. Ries, E.: Some Radical Changes in the After-Treatment of Celiotomy Cases. *J.A.M.A.* **33**:454-456, August 19, 1899.
2. Leithauser, D. J., and Bergo, H. L.: Early Rising and Ambulatory Activity After Operation—A Means of Preventive Complications. *Arch. Surg.* **42**:1086-1093, June, 1941.
3. Leithauser, D. J.: Confinement to Bed for Only 24 Hours After Operation: A Means of Preventing Pulmonary and Circulatory Complications and of Shortening the Period of Convalescence. *Arch. Surg.* **47**:203-215, August, 1943.
4. Newburger, B.: Early Postoperative Walking: II. Collective Review. *Surgery* **14**:142-154, July, 1943.
5. Nelson, E. W., and Collins, C. G.: Cotton Suture Material and Early Ambulation in Gynecology and Obstetrics. *Surgery* **12**:109-114, July, 1942.
6. Newburger, B.: Early Postoperative Walking: The Influence of Exercise on Wound Healing in Rats. *Surgery* **13**:692-694, May, 1943.
7. Kimbarovsky, M. A.: Early Rising in Postoperative Period. *Nov. Khir. Arkhiv.* **35**:57-74, 1935.
8. Churchill, E. D., and McNeil, D.: The Reduction in Vital Capacity Following Operation. *Surg., Gynec. and Obst.* **44**:483-488, April, 1927.
9. Beecher, H. K.: Measured Effect of Laparotomy on Respiration. *J. Clin. Investigation* **12**:639-650, July, 1933.
10. Powers, J. H.: Vital Capacity: Its Significance in Relation to Postoperative Pulmonary Complications. *Arch. Surg.* **17**:304-323, August, 1928.
11. Hunter, W. C., Krygier, J. J., Kennedy, J. C., and Sneeden, V. D.: Etiology and Prevention of Thrombosis of the Deep Leg Veins—A Study of 400 Cases. *Surgery* **17**:178-190, February, 1945.
12. Ashkins, J.: Early Rising After Surgical Operations. *N.E.J.M.* **233**:33-37, July 12, 1945.
13. Schafer, P. W., and Dragstedt, L. R.: "Early Rising" Following Major Surgical Procedures. *Surg., Gynec. and Obst.* **81**:93-97, July, 1945.
14. Blodgett, J. B., and Beattie, E. J.: Early Postoperative Rising: A Statistical Study of Hospital Complications. *Surg., Gynec. and Obst.* **82**:485, April, 1946.
15. Powers, J. H.: The Abuse of Rest As a Therapeutic Measure in Surgery—Early Postoperative Activity and Rehabilitation. *J.A.M.A.* **125**:1079-1083, August 19, 1944.
16. Burch, J. C., and Fisher, H. C.: Early Ambulation in Abdominal Surgery. *Ann. Surg.* **124**:791-798, October, 1946.
17. Frykholm, R.: Pathogenesis and Mechanical Prophylaxis of Venous Thrombosis. *Surg., Gynec. and Obst.* **71**:307, September, 1940.
18. Smith, L. A., Allen, E. V., and Craig, W. M.: Time Required for Blood to Flow from the Arm and the Foot of Man to the Carotid Sinuses. I. Effect of Temperature, Exercise, Increased Intraumuscular Tension, Elevation of Limbs and Sympathectomy. *Arch. Surg.* **41**:1366-1376, December, 1940.
19. Smith, L. A., and Allen, E. V.: Vascular Clinics XIV. Studies on the Rate of Venous Blood Flow. Proc. of Staff Meetings, Mayo Clinic **16**:53, January 22, 1941.
20. Nelson, H.: Early Ambulation Following Section of the Anterior Abdominal Wall—Analysis of 426 Personally Conducted Cases. *Arch. Surg.* **49**:1-8, July, 1944.
21. Cuthbertson, D. P.: The Influence of Prolonged Muscular Rest on the Metabolism. *Biochem. J.* **23**: 1328, 1929.
22. Leithauser, D. J.: Early Ambulation and Related Procedures in Surgical Management. Charles C. Thomas, Publisher, 1946.
23. Lauer, C. A., and Kerr, R. K.: An Ambulatory Program Following Operation for Unruptured Appendicitis. *U. S. Naval Bull Med.* **43**:232-233, August, 1944.
24. Shouldice, E. R.: Surgical Treatment of Hernia. Read at the Annual Meeting of the Ontario Medical Association, Districts 9 and 10, September, 1944.
25. Trice, E. T.: The Application of the Principles of Early Ambulation to Surgical Patients. *Va. Med. Monthly* **74**:103-107, March, 1947.
26. Joyce, H. T.: Early Ambulation in Gynecology and Obstetrics. *Med. Times* **74**:77-89, March, 1946.
27. D'Ingianni, V.: Early and Late Postoperative Ambulation—A Comparative Study of 303 Cases. *Arch. Surg.* **50**:214-218, April, 1945.
28. Rosenblum, G., Melinkoff, E., and Fists, H. S.: Early Rising in the Puerperium. *J.A.M.A.* **129**:13, 849, August 19, 1944.
29. Hall, J. E.: Early Ambulation in Obstetrics. *Brooklyn Hospital J.* **5**:41-44, January, 1947.
30. Dock, W.: Evil Sequelae of Complete Bed Rest. *J.A.M.A.* **125**:16, 1083-1087, August, 1944.

DISCUSSION

DR. C. BRUCE MORTON, II, Charlottesville: I appreciate the opportunity Dr. Lee has given me to discuss his paper on Early Ambulation and I am happy to say that my experience leads me to heartily endorse the views which Dr. Lee has expressed in his excellent paper.

My interest in and practice of early ambulation in surgical patients dates back to October, 1927, twenty years ago, when I joined the Surgical Staff of the University of Virginia Hospital. Much of my surgical training was received in a clinic in which surgical patients were got out of bed earlier than in most hospitals. Also, I had done a great deal of experimental surgery and I noted the fact that experimental animals became ambulant and sometimes vigorously active immediately after laparotomy. I saw no ill-effects in either patients or animals and it was my distinct impression that laparotomy incisions in animals healed more quickly than in patients.

Therefore, when I assumed the responsibility of the care of surgical patients, I began to get them out of bed and permit activity much earlier than had been the custom in the University of Virginia Hospital. Several of my colleagues questioned the wisdom of this practice and suggested that more mature experience might temper the enthusiasm of youth and make me realize that early ambulation was fraught with disadvantages and definite risks.

I persisted, however, in the early ambulation of surgical patients, and gradually employed ambulation earlier and earlier after operation until I reached the point where some patients were permitted to get up the same day of operation and most of them the day following operation. It was obvious that patients, almost without exception, enjoyed and thrived on early ambulation.

Families of patients and their friends soon recognized the advantage of this newer method of postoperative care and accepted it enthusiastically. Other members of the staff gradually accepted and began to practice earlier ambulation among their own patients. In recent years numerous reports of the beneficial effects of early ambulation have appeared in medical literature from all parts of this country. Some months ago an article extolling the virtues of early ambulation appeared in one of the current popular magazines.

On the basis of my experience with early ambulation, I feel that there are very few limitations to it. Dr. Lee has mentioned eleven contraindications but it is my feeling that not all of them are unequivocally valid. Many patients who have had prolonged preoperative bed-rest for various reasons, respond excellently to early ambulation. Cardiac insufficiency, unless there is acute cardiac failure, does not appear to be enhanced by early ambulation. A recent coronary attack, if very recent, may well be a specific contraindication but in this connection it should be pointed out, as Dr. Lee did, that many cardiologists now advise a much shorter period of bed-rest for patients with coronary occlusion than they formerly did. Shock, while the patient is in its acute phase, of course must contraindicate early ambulation, but when measures to combat it have overcome its acute phase, early ambulation may so improve general muscle tone and vascular response as to be very helpful. Severe anemia can be usually so promptly combated by blood transfusions that it seldom interferes with early ambulation. Almost the same comment may be made in the case of hemorrhage, except in some cases such as hemorrhage from the gastrointestinal tract or some other parts of the body where the source of the hemorrhage cannot always be dealt with directly and continued or recurrent hemorrhage is to be feared. In patients with thrombosis or embolism or both, ambulation obviously may present certain hazards, but in this connection attention might be called to the fact that ambulation may so improve the circulation as to prevent further occurrence or propagation of thrombi and facilitate the absorption of some emboli. In patients having undergone difficult hernia repair and with poor or weak tissues, early ambulation need not add greatly if at all to the strain put upon the healing tissues and may by improvement of circulation and other factors actually encourage quicker and better healing. In the case of delayed wound closures and potential or actual wound complications including gross contamination, infection, hemorrhage, or dehiscence, early ambulation need not be withheld in all cases. In many such patients early ambulation may be actually helpful and if the muscle pull on the wound margins is minimized by properly placed and adequately supporting adhesive straps, early ambulation may be beneficial rather than harmful. In the case of pregnancy in which abortion is feared, I have had no experience so I cannot make any comment.

I doubt that there is any important difference between the use of absorbable and non-absorbable sutures in wound closure. In laparotomy wounds I use catgut almost exclusively while in herniorrhaphy I employ silk always. Care in the spacing and tension of sutures to promote good circulation and judicious wound support by adhesive bands make early ambulation safe.

Early ambulation promotes comfort, conserves strength, minimizes many complications and greatly enhances rapid rehabilitation of patients.

DR. E. T. TRICE, Richmond: I have, indeed, enjoyed Dr. Lee's report on his experience with the practice of early ambulation in postoperative management. With the spirometer, sphygmomanometer, clinical thermometer and other aids to determine the physiological state, it has been demonstrated that each one of his assertions can be proved.

He has outlined the historical background which has in it much discouragement. He wishes for us to realize though, that today the advances in technical procedure, along with a better understanding of physiology and biochemistry, justify his enthusiasm for the practice of early ambulation, and all of us congratulate him as a pioneer in this part of the country. His departure from a well entrenched routine of postoperative management is a milestone in the progress of surgery. It is comparable in importance to anesthesia and chemotherapy. In the practice of surgery, when a change in routine is supported by physiological, anatomical, biochemical, and psychological reasons as well as statistical tables, it is evidential that a strong case is made for the change.

Dr. Lee has emphasized that the body, both in health and disease, depends on efficient circulation, efficient respiration, and efficient digestion. All of us realize that the trauma of surgery cripples that physiology. All of us realize that pathology, pain, and the use of drugs adds to that crippling. It is furthermore known that from that altered physiological state there are blood changes, for example, increase in fibrinogen value, and very unhappily we agree with celebrated physiologists that the insoluble protein, thrombin, not found in normal blood, is in the blood of those persons who have undergone surgical trauma. It is also a natural prediction that from these experiences, not commonplace, innumerable re-

flexes are experienced. Unfortunately, the response is in the form of inhibition. Circulation is inhibited, respiration is inhibited, and there is inhibition of the motor supply to the gastrointestinal tract. It is commonly accepted that inhibition to those important systems, if prolonged, will lead to postoperative complications and if not halted will progress to serious proportions or death. Dr. Lee is quite right when he informs us how well ambulation removes that inhibition. Vital capacity is restored earlier, blood velocity is increased, and the diaphragm assumes its proper position.

My own conception of early ambulation is ambulation during the *immediate* postoperative period. The immediate postoperative period is the time when inhibition to important systems is greatest. So, it is during the immediate postoperative period that complications are initiated, not the first postoperative day, and at no other time, for physiological reasons, does it appear that ambulation is helpful.

Many reports have been made under the title of "early rising". As far as it is known, physiologically, to rise and not walk further than a chair and sit down is harmful for the reason that that activity is not sufficient to restore disturbed physiology. Ambulation does empty the deep veins and from walking there is other indirect helpful influence.

Experience has shown that the more extensive the pathology is, the more intense will be the reactions. Appreciating the value of early ambulation generally, it appears that early ambulation during the immediate postoperative period in ill patients serves its greatest usefulness.

Illustrative of the helpfulness of ambulation in subclinical shock: a patient, age 66 years, had a Miles resection. The specimen was 40 cm. in length and was reported as Grade 3 adenocarcinoma. After walking and coughing and having a photograph made during the fifth postoperative hour, he was returned to bed much restored.

I have profited greatly by Dr. Lee's report and, after taking it apart and putting it back together, it is apparent that he looks upon prolonged bed rest as unphysiological and that it casts a shadow over the mental attitude of the patient, which is undoubtedly correct.

DR. HERBERT C. LEE, closing the discussion: I wish to thank the doctors for their excellent discussions.

I decry any originality in this concept, for I think that all credit for early rising, in this part of the country certainly, should be given to Dr. Morton. When I first came to Virginia, patients would come to me and say, "Why don't you get me out of bed like Dr. Morton does at Charlottesville?" After I heard that several times I thought it behooved me to find out what he was doing. Ever since I learned about the methods of early rising which he employed I have been a strong advocate of it. However, I feel that all credit for such a change in postoperative care should, locally, at least, be given to him. It is for this reason that I am grateful to him for being with us today to give us some of these experiences of his long standing use of early rising.

National Heart Institute.

The National Heart Institute has been established as one of the National Institutes of Health in the Public Health Service.

Surgeon General Leonard A. Scheele, USPHS, announced the appointment of Dr. Cassius J. Van Slyke as Director of the National Heart Institute, under the general supervision of Assistant Surgeon R. E. Dyer, Director of the National Institutes of Health. In addition, Dr. Van Slyke will be directly responsible to the Surgeon General for coordination of all heart disease activities in the Public Health Service. He will represent the Service in maintaining relationships with professional societies, voluntary agencies and other civic groups who are interested in the progress of the heart disease program.

The National Heart Institute was created by Congress in the National Heart Act, approved by President Truman, June 16, 1948. The law authorizes the Public Health Service to develop a broad attack upon cardiovascular diseases, now the leading cause of death in the United States. The program will include the conduct of research, financial aid to outside institutions for research and training of professional personnel, fellowships for individual scientists, and grants-in-aid and technical assistance to the States for heart disease control services.

The new Institute will have its headquarters at the National Institutes of Health, Bethesda, Md.

RECENT TRENDS IN OBSTETRICS*

BROCK D. JONES, JR., B.S., M.D.,
Norfolk, Virginia.

During the past decade maternal mortality has decreased, not only in our states, Virginia and North Carolina, but throughout the country. Even under the best circumstances, however, maternal death may be a terrifying experience. Therefore, it seems worthwhile to review some of the possible complications of pregnancy and labor.

Toxemias of Pregnancy. A review of the literature indicates that little advance in this problem has been made and it still remains the disease of many theories. Kellog[1], in a comprehensive review, states that hypertension is the residual lesion after pre-eclampsia with an incident of about 50%—in eclampsia 60%. Cosgrove[2] and his associates feel that the most significant and important finding in toxemia are changes in the vascular system, particularly the capillaries and arterioles. There may be many factors operating in producing the clinical picture of toxemia. In a few selected cases of rather marked essential hypertension, the Smithwick operation was successful in carrying the pregnancy to full term, without damage to the vascular system. Rucker[3] reported that leading obstetricians from all over the world discussed the etiology and treatment of eclampsia at the International Congress of Obstetricians which was held last Summer in Ireland. Stander predicted that the cause of eclampsia would be found in the placenta. Hofbauer was very sure that he had discovered the cause of eclampsia; that it was due to acetylcholine in the placenta and in some way acted on the adrenal cortex and pituitary which in turn produced convulsions. Theobald said, just as emphatically, that it was not acetylcholine in the placenta; that he had found it in the liver and spleen. It is of great interest during the recent war years that death from eclampsia dropped tremendously. A theory for this marked decline in Great Britain was attributed to the vitamins and milk given to pregnant women. In China, eclampsia was frequent when beri-beri was common. Treatment was finally discussed—Irving, at Boston Lying-In Hospital, found that veratrum viridi had improved results in his clinic. Caesarean section was resorted to more frequently at the Rotunda Hospital than formerly, but a large majority advocated conservative treatment. Oxygen in the treatment of eclampsia was emphasized. In conclusion, (1) toxemia of pregnancy remains a disease of unknown etiology; (2) early diagnosis and proper prenatal care is essential; (3) medical treatment should be tried first in all cases of toxemia of pregnancy. Those who do not respond should be delivered promptly by the safest and simplest method. However, inhalation anesthetics must be avoided.

The Rh Factor. Is the Rh factor important? Just how important it is in all probability cannot be answered today. However, since its discovery some very valuable information has been learned, which benefits the obstetrician more than any other practitioner. The most recent observations upon Rh factor are (1) An Rh determination should be made for all women and particularly those within the child-bearing age; (2) A history should be obtained on all women found to be Rh negative who had previously had transfusions or pregnancies; (3) Babies with erythroblastosis should not be allowed to nurse; the breast milk contains anti-Rh agglutinins; (4) There is no justification for Caesarean section or induction of labor before term if the titer is increasing; (5) Blood from the mother should not be used in transfusion to the infant. It is essential if a transfusion becomes necessary that a Rh negative female receive only Rh negative blood.

Habitual Abortions. It has been estimated that two hundred thousand spontaneous abortions occur annually. All patients having two or three consecutive spontaneous abortions should be thoroughly investigated. Pelvic pathology, a thorough investigation of the husband, thyroid deficiency, and, of course, systemic diseases should be ruled out. In the group of patients which present no abnormalities many hormones have been tried. Vaux and Rakoff[4] have shown that habitual aborters exhibit a rather low progesterone and estrogen levels. Their patients were treated with intramuscular injections of progesterone and alphaestradiol benzoate given together two or three times weekly. In some of

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Virginia Beach, Va., December 3, 1947.

the cases treatment was continued until term. Smith[5] has reported good results with the use of stilbestrol in increasing the excretion of pregnandiol. This work seems to confirm Karnaky's[6] success with the use of stilbestrol for the treatment of habitual abortions. The results presented by the above men are encouraging, and they appear to be sound rationales of therapy.

Early Ambulation. Charles White, the imminent British obstetrician, wrote in 1793, "The sooner the patient gets out of bed after her delivery the better; even on the same day if possible; she should not defer it beyond the second or third day at the farthest." Hall[7] has suggested that (1) the patient move freely about in bed following recovery from the anesthetic; (2) she is asked to sit up on the side of the bed for a few minutes two or three times during the first twenty-four hours; (3) the patient is allowed to stand upright three or four times for a few minutes on the second day: (4) on the third day she should walk about the room several times with complete bathroom privileges. Due to demands for obstetrical accommodations during the war years, early ambulation was forced upon most obstetricians. Patients have less bladder complications and phlebitis is less common. Convalescence seems to be smoother. The advantages of early ambulation seem to outweigh its disadvantages. Eastman[8] concluded that evidence thus far accumulated does not indicate that early rising conduces to prolapse. But whether the same impression will be held when these women are examined ten or twenty years hence cannot, of course, be stated at the present time.

Caesarean Section. Caesarean section is probably the most abused of all abdominal operations. Delivery can be terminated quickly but not always satisfactory to mother and physician. A review of the literature indicates that the incidence of abdominal delivery has steadily increased in recent years. The death rate from this procedure has been reduced sharply as the elective operations increase. Much debate recently indicates difference of opinion concerning the merits of the various types of Caesarean sections. Dieckman[9], of Chicago Lying-In Hospital, reports a mortality of one or two per cent in general hospitals and of one-half to one per cent in maternity hospitals; Irving[10], Boston Lying-In Hospital, published ten years experience with Caesarean section—incidence given as 4.2%. However, Caesarean section was twice as high among private patients as among those on the ward, an interesting fact to say the least. 71.6% of the operations were performed for dystocia. Irving believes that mid-forceps delivery has proved as dangerous for the mother as Caesarean section and eight times as dangerous for the fetus. There was no difference in the morbidity between the classic in the low segment operation in his series. At the Philadelphia Lying-In Hospital[11] there is no routine operation. The Kerr cervical section for the patients in labor or with ruptured membranes and the Waters extraperitoneal type for the infected patients are used. In summary, the improvement in technique and safety of the operations have no doubt greatly increased the indications for abdominal delivery. Caesarean section performed before labor offers the patient the most protection. If the low segment operation is better for the patient in labor or with ruptured membranes, it should be safer for the clean or elective case. I would like to recommend that blood be available in the operating room before the Caesarean section is begun.

Hemorrhage. In reviewing maternal mortality statistics hemorrhage outranks all other single causes of death in spite of the simplicity and availability of blood transfusions. Gordon[12], in a review of the causes of maternal death in Brooklyn, suggests in mortality reports the proper relation of hemorrhage to the cause of death is frequently omitted. For example, in a death from sepsis, the patient's resistance to infection has been severely damaged by excessive loss of blood. It is suggested that all women who bleed during the last trimester of pregnancy should be removed to a well-equipped hospital at once without an examination at home. On arrival at the hospital blood should be typed and the Rh factor should be determined. No vaginal or rectal examination should be done until the patient is properly prepared and in the operating room, in order that the operator can proceed with the delivery either vaginally or abdominally if necessary. The choice of treatment in any given case of placenta previa is dependent upon the following factors—the severity of the case; the degree of shock; location of the placenta; the viability of the child; and, most important of all, the amount of cervical dilatation. In the treatment of abruptio placenta there seems to be more difference of opinion. The high incidence

of toxemia in cases of premature separations and the greatly increased frequency of placental abruption among patients suffering with toxemia, leads one inevitably to the conclusion that the toxin, whatever it may be, destroys the integrity of the placental vessels and is responsible for the retroplacental hemorrhage. The choice of treatment is dependent upon: the general condition of the patient; the degree of cervical dilatation whether or not the patient is in labor. In dealing with the milder degrees of separation, it is rarely necessary to alter the conduct of labor. On the other hand, the more urgent cases, because of extreme loss of blood and shock, require that the uterus be emptied by the quickest method compatible with safety to the mother. In the more severe cases Caesarean section is done in the interest of the mother even though the child is dead. The most frequent cause of fatal obstetrical hemorrhage occurs postpartum. It has been suggested by Greenberg that the first hour postpartum be called the fourth stage of labor.

Anesthesia and Analgesia. Throughout the ages men have sought diligently for methods of alleviating pain, particularly that which is associated with child-birth. It is interesting to review briefly the methods employed. It was in the middle of the nineteenth century, when Queen Victoria accepted chloroform for pain relief during the birth of her eighth child—the beginning of modern anesthesia. And then, periods of enthusiasm were noted—1880, nitrous oxide; 1920, morphine-scopolamine (twilight sleep) which enjoyed great popularity. In the early thirties, in a search for a better preparation, the barbiturates were discovered. The battle of the barbiturates was then on. Then came demerol, a synthetic drug. Its advantage over small doses of morphine has been questioned. Caudal analgesia, which at best, is almost a perfect anesthetic for delivery, then swept the country. Its attractive features are counterbalanced by certain disadvantages that prevent its general use. It is not a practical procedure in the routine hospital of today. After some experience with caudal, I believe that the technique, although important, is secondary to the selection of the patient and the time of administration. Not over 20% of the obstetrical patients are suitable for caudal under ideal conditions. I believe everyone will agree that local infiltration is the safest of all anesthesias. There is no doubt that it is contra-indicated in some individuals. It should be used more generally for the following three reasons—its availability, its simplicity of administration, and its safety. I am convinced that, with a competent anesthetist, spinal anesthesia is the choice for routine Caesarean section.

In conclusion, progress in analgesia and anesthesia constitutes one of the outstanding advances in obstetrics in our times. The methods available for relief of pain in labor and delivery are numerous. No routine procedure should be used; each case should be individualized. Finally, the responsibility of the obstetrician is primarily to insure a living mother and baby.

REFERENCES

1. Kellog, F. S.: Toxemias of Pregnancy. *Clinics* **4**: 585-595, 1945.
2. Cosgrove, S. A.: Management and Treatment of Late Toxemias of Pregnancy. *Am. J. Obst. and Gyn.* **51**:67-74, 1946.
3. Rucker, M. P.: Editorial *Va. Med. Monthly,* p. 435, September, 1947.
4. Vaux, N. W., and Rakoff, A. E.: Estrogen—Progesterone Therapy: New Rationale in Twenty-Four Treated Cases. *Am. J. Obst. and Gyn.* **50**:353-366, 1945.
5. Smith, O. W., *et al.:* Increased Excretion of Pregnandiol in Pregnancy from Diethylstilbestrol with Special Reference to the Prevention of Late Pregnancy Accidents. *Am. J. Obst. and Gyn.* **51**:411-415, 1946.
6. Karnaky, K. J.: The Use of Stilbestrol for the Treatment of Threatened and Habitual Abortions and Premature Labor. *Southern Med. J.* **35**:838, September, 1942.
7. Hall, J. Cullen: Early Ambulation in Obstetrics and Gynecology. *Journal S. C. Med. Assoc.* **43**:29-30, 1947.
8. Eastman, N. J.: Editor *Obst. and Gyn.,* Survey, August, 1947, p. 450.
9. Dieckman, W. J.: Caesarean Section Mortality. *Am. J. Obst. and Gyn.* **50**:28-48, 1945.
10. Irving, F. C.: Ten Years of Ceasarean Section at Boston Lying-In Hospital. *Am. J. Obst. and Gyn.* **50**:660-680, 1945.
11. Briscoe, C. C.: *Am. J. Obst. and Gyn.* **48**:16-25, 1944.
12. Gordon, C. A.: Hemorrhage As Most Important Cause of Maternal Death in Brooklyn. *Am. J. Obst. and Gyn.* **48**:557-564, 1944.

Medical Arts Building.

THE USE OF VITAMIN E IN MENOPAUSAL SYNDROME*

HOMER E. FERGUSON, M.D.,
Richmond, Virginia.

This paper is presented as an adjunct in the field of therapy for the never-ending gynecological problem of middleage climacteric instability among females. This new era in the vitamin field does bring forth new possibilities in the treatment of the menopause patient. Our already over-crowded and poorly understood modern endocrinological and bio-chemistry fields have made possible a variety of estrogenic substances as hormones or synthetic products for the treatment of menopausal syndrome. The modern concept of therapy is to give the menopausal patient help other than sedation and verbal satisfaction; the physician having only a meager knowledge of estrogenic therapy, plunges into a form of treatment without first understanding the real possibilities of the hormone. We know that hormones are extremely helpful if used correctly but they can produce very undesirable reactions in the hands of inexperienced physicians. Many of these know little or just the fundamental basic use; therefore, these substances produce end results that are sometimes unexplainable as well as uncontrollable. It is with this thought in mind that the speaker would like to present some of the results and findings he has encountered in the use of Vitamin E in the menopausal syndrome of patients over a period of eighteen months and studying a total of sixty-six cases.

Little is actually known about the human requirements for Vitamin E but clinical studies with the use of Vitamin E substances indicate its possible prophylactic and therapeutic value. The use of vitamin E is not confined to any one particular field and it is known to be very helpful in certain neuromuscular disorders, malnutrition, and in certain forms of disseminated sclerosis. It is of unquestionable value in reproductive disorders of the male and female, and the use of the vitamin E in such instances gave the speaker his first observations in both pre-menopause and menopausal patients getting relief of their common symptoms of flushes, headaches, nervousness and irritability when given doses of Vitamin E for the prevention or possible prevention of habitual abortion in those patients of the late thirties or early forties during the first trimester of pregnancy.

In searching the literature for any subject material concerning the subject of vitamin E, one is confronted with lack of material except the work of Christy who describes some very definite conclusions as to the uses and possibilities of vitamin E in menopausal problems; and the work of Hain, a British writer, on the study of Vitamin E in the control of flushes as contrasted to the use of estrogens. His work revealed about 68 per cent reduction in flushes with vitamin E (Viteolin—6mg of tocopherol per capsule—ii capsules daily for 14 weeks).

In my series of sixty-six cases studied, twenty-six patients were from 24 to 32 years of age and forty were from 32 to 56 years of age. All patients were private and only those who could be relied upon in giving accurate data were chosen. The routine followed is as follows: The patients were seen in the office once each four weeks for consultation regarding the medicine but more often as the case indicated. E-Toplex Perles (appx. 5mg of alpha-tocopherol)—ii p.c. daily for six weeks then one p.c. daily until discontinued for some reason. Supplemental to these perles, in the stubborn cases we used Vitamin E Injectable (TocElin—100 mg per cc) in the muscle (deep) weekly or until symptoms began to abate, and then the injections were cut out and patient left on the perles—i p.c. daily. Occasionally, we had to re-institute the TocElin injections to control the patient. At this point I want to add that no patient at any time felt or complained of any ill effects in taking the vitamin E preparations. These patients were not told the type of medications they were taking and so far as they knew they were still taking hormones like those previously prescribed by myself and elsewhere. It was true that when they shifted to the Vitamin E preparations a decided difference was noted in the patient to the injections but after repeated doses with the perles as a supplement, they lost their tenseness and gained the previous feeling of mental and physical relaxation they had attained with previous estrogenic substances.

A breakdown of the patients in the two groups

*Read at the annual meeting of the Medical Society of Virginia in Roanoke, October 13-15, 1947.

studied is as follows: in the first group—24 to 32 years of age—1 had carcinoma (grade II) of the cervix; 4 were operative or radiation castrates, and 21 had essentially negative physical and pelvic findings with normal vaginal cell studies. All possessed the pre-menopausal syndrome complex as previously stated. In the second group—32 to 56 years of age—14 had reached a normal climacteric change; 8 were operative or radiation castrates; 11 had lost one or part of both ovaries by surgery due to some pathological pelvic condition, and 7 had essentially normal pelvis with normal vaginal cell studies. Likewise, all these patients possessed the pre-menopausal or menopausal syndrome complex.

Following the routine set forth in the foregoing portion of this paper, the following results were obtained. In the first group, 18 received complete relief on 5 months therapy; 4 received complete relief in 8 months, whereas 4 did not obtain any relief at all but did get some relief from their menopausal symptoms from estrogenic therapy. In the second group, 26 received complete relief on 5 months therapy; 11 obtained complete relief in 8 months; 1 some relief in 12 months, and 2 no relief at all and not on estrogenic therapy either. One may ask just what is meant by "relief". It is just this—the cutting down of flushes or flashes from none to one or two a day when previously they had been having 8 or 10 a day; reducing emotional and irritable feeling to a bare minimum; relief of basal menopausal headaches, and lifting the barrier of depression and crying.

The speaker does believe that vitamin E has demonstrated its effectiveness in menopausal syndrome therapy by such clinical application but that it does need further clinical application by others to help reach a standard for more effective work. In some cases the vitamin E seems more useful in relieving symptoms of vasomotor instability than estrogens. In the cases studied there was no demonstrable change in vaginal cells from normal, in menstrual cycle or flow and frigidity. No side reactions were encountered as dizziness, soreness of the breast, pelvic pain, vomiting, headaches or nausea. These factors commend the application of Vitamin E in menopausal syndrome therapy.

CONCLUSION

This report on the use of Vitamin E in menopausal syndrome is given purely for what help it may offer and gives my personal observations over a period of eighteen months. We must admit that we do not understand its method of action, but by clinical application it has produced relief in these forever sick females who are to be treated rather than passed by lightly.

In conclusion, it should be pointed out that this preparation does not in any way induce or disturb carcinogenic cellular action which is sometimes thought to be aggravated by estrogenic hormones.

REFERENCES

Christy, Christ J.: Vitamin E in Menopause. Preliminary Report of Experimental and Clinical Study. *A. J. Obs. and Gyn.* **50**:84 (July), 1945.

Hain, A. M., and Sym, J. C. B.: The Control of Menopausal Flushes by Vitamin E. *Brit. Med. Jour.* **2**:8 (July), 1943.

Personal Correspondence with Dr. Emil Novak.

7 North Monroe Street.

DISCUSSION

DR. JOHN F. WILLIAMS, Richmond: Dr. Ferguson is to be congratulated for his important and timely paper on the treatment of menopausal and premenopausal syndrome with mixed tocopherols, the potency of which is expressed as mgms. of alpha tocopherol.

The treatment of the menopausal syndrome has been a worrisome problem of physicians for ages. Any treatment that will control effectively the vicious symptom-complex, as shown by Dr. Ferguson, (1) without side effect, (2) that can be given in large dosage without harm, or (3) without demonstrable detriment to the endocrine system, and (4) that can be given by mouth, in most cases, is truly a remarkable advance in therapy.

It was my privilege, about the time Evans and his co-workers isolated Vitamin E, to know personally one of the "co-workers", Dr. Pencharz, who was probably responsible for much of the important work in Evans' laboratory. Therefore it gives me much pleasure today to comment on this excellent paper, which demonstrates the clinical application of basic research done in the laboratory.

I think that we have learned something of great therapeutic value.

THE SIGNIFICANCE OF PARALYSIS OF THE LARYNX* ITS SURGICAL CORRECTION IN BILATERAL CASES

FLETCHER D. WOODWARD, M.D.,
Charlottesville, Virginia.

Paralysis of the Larynx is not a rare disease, and may be caused by numerous diseases affecting the nervous pathways either in the supranuclear, nuclear or infranuclear positions. Clinically these lesions are roughly divided into central or peripheral lesions. The resultant paralyses may be either partial, complete, unilateral or bilateral, and vary in detail in many ways according to the degree of motor involvement of the abductor, tensor, and adductor muscles and whether the sensory fibers are likewise affected.

ANATOMY: The most complete anatomical studies of Semon in 1881 and Lemere in 1933 have been invaluable in understanding the mechanism of these paralyses. Since the cortico-bulbar fibers decussate, most supranuclear lesions of the brain produce a bilateral spastic paralysis, more often a paresis. However, unilateral lesions do occur from this source, but are frequently associated with other cranial nerve paralyses. The causes of this type of paralysis are: meningitis, encephalitis, as examples.

The ambiguous nuclei are in the medulla, and since the nuclei of the 9th, 10th, 11th and 12th cranial nerves are closely associated, paralyses due to lesions of the 10th nucleus in this region are frequently associated with paralyses of the 9th, 11th and 12th cranial nerves. They are usually flaccid in nature and unilateral but may be bilateral. Among the diseases of this area are: progressive bulbar paralysis, poliomyelitis, tabes, multiple sclerosis, hemorrhage, thrombosis, meningitis, abscesses, tumors, and fractures, as examples.

As the 10th nerve leaves the skull through the jugular foramen, it is still associated with the 9th and 11th cranial nerves, so here again associated paralyses are frequently noted. In addition to the lesions listed as examples above, it is also vulnerable from lesions of the nasopharynx, jugular bulb and parapharyngeal space. Lesions of these two areas are often spoken of as a syndrome of the medulla or a syndrome of the jugular foramen. Central lesions cause about 10 per cent of the cases of laryngoparalysis.

On emergence of the 10th nerve from the skull, we find the superior laryngeal nerves arising from the ganglion nodosum. These bilateral nerves supply sensation to the larynx through external and internal branches and are purely sensory except for motor fibers to the cricothyroid muscle, a tensor muscle.

Descending in the 10th nerve are the motor fibers of the spinal accessory. They leave the vagus on the right side at the level of the subclavian artery, and after looping around this vessel, ascend to supply the right unilateral muscles and the bilateral interarytenoid muscle. On the left these motor fibers are given off lower down and loop around the arch of the aorta before ascending as the recurrent laryngeal nerve and supplying the left side of the larynx in a similar manner to the right recurrent. The longer course of the left recurrent nerve is thought to account for its more frequent involvement. Since some paralyses of the larynx are difficult to explain on this accepted anatomical nerve distribution, it has been claimed that there is at times an anomalous distribution of some of these motor nerves through the superior or sensory nerve.

Any lesion of the neck, esophagus, mediastinum, heart, or lungs may produce a paralysis of these recurrent nerves, usually unilateral, partial or complete. Among the common disorders of these structures are: aneurysm, malignant tumors, tuberculosis, toxic neuritis, and thyroid disease, as examples.

The vocal cords function by the action primarily of unilateral abductor and adductor muscles—the lateral crico-arytenoid muscle, the adductor, and the stronger posterior crico-arytenoid muscle, the abductor. The interarytenoid muscle has bilateral innervation. In addition to these main muscles, there are also tensors and other secondary muscles.

According to Semon (1881), a lesion of the motor nerve affects first the abductors, next the tensors, and lastly the adductors. This is known as Semon's Law, and can usually be verified in observing the progress of laryngeal paralysis.

*From the Department of Otolaryngology, University of Virginia Hospital, Charlottesville.

Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 14, 1947.

EXAMINATION: Fortunately, the larynx can be easily seen in most patients by mirror laryngoscopy, and a diagnosis made in this manner. However, in children and some adults a direct examination may be required.

DIAGNOSIS: A true paralysis must be differentiated from functional neurosis and fixation of a cord by tumor or inflammatory reaction. This is not a difficult problem, as a rule, since the appearance of each is quite characteristic. In searching for the cause, x-rays of the chest and neck are necessary. Examination of the larynx, pharynx, esophagus, neck and central nervous system may be necessary, in addition to the routine physical and blood examinations.

SYMPTOMS: Hoarseness is the most common symptom, yet approximately one-third have no symptoms; at times, voice weakness, dyspnoea, stridor or strangling may appear. These symptoms vary according to whether the paralysis is unilateral or bilateral, partial or complete, recent or old. The usual position of the cord in unilateral paralysis is in the median or paramedian line; if complete, it may occupy the so-called cadaveric position. In either case the airway is adequate and the voice is good, since the sound cord approximates itself to the paralyzed cord. In paralysis of both cords, the position of both cords is in the median line, as a rule. This position serves for good voice production, but stridor and dyspnoea are present and death from suffocation is possible, especially with an intercurrent respiratory infection. In a few cases of bilateral paralysis, the cords are in the cadaveric position; in this instance, the voice is impaired, but the airway is adequate.

PROGNOSIS: Since the cause of the paralysis cannot be determined in approximately one-third of the cases, it is assumed that many minor disorders can cause it, such as a toxic neuritis. Many of these cases recover, especially if it is a paresis rather than a paralysis. In any case it is wise to allow six months before deciding that it is permanent. Of course, all bilateral cases should have a tracheotomy to avoid the danger of sudden asphyxia. Whenever a specific cause can be determined, treatment is directed to that end, and the prognosis then depends on the type and duration of the disease as well as its response to treatment.

TREATMENT: Since thyroid disease and surgery of the thyroid gland cause a large number of laryngeal paralyses, it is most important that surgeons recognize this relationship. The larynx is primarily an organ of respiration and serves only in the production of sound. Articulate speech takes place by action of the pharynx, teeth, mouth, tongue and palate. Therefore, speech is no indication of laryngeal paralysis, and the larynx should always be examined both pre- and post-operatively in all thyroidectomies; for one or both recurrent nerves may have been paralyzed by the disease or may have been injured by section, ligation, hemorrhage, edema or scar formation. If one cord is paralyzed before operation, extreme care should be exercised to protect the sound nerve; for if injured at operation, both cords approximate in the midline and sudden death may occur on the table. In all cases of bilateral recurrent nerve paralysis, a tracheotomy should be done and the tube worn until an adequate airway has been established, either by recovery of the paralyzed cord or by surgical correction. When intratracheal anesthesia is used at operation and obstructive dyspnoea appears on removal of the tube, a bilateral paralysis must be suspected, and the tube reintroduced until a tracheotomy can be done.

Treatment, of course, is directed at the cause, if it can be determined, and only when both recurrent nerves become paralyzed is treatment directed to the larynx, first by tracheotomy and later, if recovery does not take place, by operation to restore the airway and preserve the voice. This problem has occupied surgeons for a long time, and many ingenious procedures have been devised. But since the problem is both to preserve the voice and to restore an adequate airway, its solution was not simple.

The first successful approach was by Dr. Brian King, several years ago, who used the omohyoid muscle and suture to retract one cord. As experience multiplied, it was realized that perhaps the removal of one arytenoid cartilage would answer the same purpose. To carry this out, Drs. Joseph Kelly and H. B. Orton devised technics to accomplish this, and many patients have been relieved by these procedures. A further and simpler operation to my mind was devised by Dr. DeGraaf Woodman, which is now our procedure of choice and has given us our best results. Briefly, it consists of exposing the posterior border of the thyroid cartilage, the disarticulation of the thyroid cartilage with

the cricoid cartilage, and the retraction of the thyroid cartilage medially so that the articulation of the arytenoid with the cricoid comes readily into view. The arytenoid cartilage is then removed, the arytenoid muscle severed, and the bed of the arytenoid cartilage retracted laterally by suture.

I have operated upon *seven patients* who had bilateral recurrent nerve paralysis following thyroid surgery. The first patient had a Kelly operation on one side and the result was satisfactory. The second required a bilateral Kelly operation to obtain an adequate airway. The third had a Kelly on one side and an Orton operation on the other, before an adequate airway was obtained. The fourth had a Kelly on one side, but required a Woodman on the other. The result from this last operation was so good that the fifth and sixth and seventh cases had a Woodman on one side each, and in each instance the voice was preserved and an adequate airway was obtained. In all, nine operations were required on these seven patients.

Since this operation is the simplest and has given such good results in four cases, we are now employing it as a routine, and on the basis of our limited experience, are advocating it to others who are interested in the relief of this distressing condition.

Siliform Ampuls Should Be Returned To Manufacturer.

Druggists and the medical profession have been urged by the Federal Security Agency's Food and Drug Administration to return all stocks of Siliform Ampuls to the manufacturer, The Heilkraft Medical Company, Boston, Mass. This injection drug, which should be sterile, is potentially dangerous since samples collected on the market contain living organisms. Siliform is injected by some physicians and osteopaths in the belief that it will relieve patients suffering with rheumatism as claimed by the manufacturer. The Food and Drug Administration found the contaminated samples after a routine inspection at the Heilkraft factory disclosed that the Siliform Ampuls had been manufactured without sterilization. Intensive recall efforts by the manufacturer and the Food and Drug Administration have not brought in all of the contaminated stocks. The article, which moves slowly, was shipped to 37 states from Maine to California and later was redistributed by wholesalers who cannot trace many of their sales. Some going back as far as 1946 have been found on the market. These ampuls may be in the hands of doctors, hospitals, clinics, and retail and wholesale druggists.

Grants-In-Aid For Mental Health Activities.

Federal funds have been allocated for grants-in-aid to States for mental health activities under the National Mental Health Act.

The mental health program, authorized by Congress in 1946, received an appropriation of $9,028,000 for the fiscal year 1949. The amount allocated to Virginia for 1949 is $74,900. Of the nine million dollars, Congress appropriated $3,550,000 for grants-in-aid to States. These funds are used by the States for developing and expanding mental health programs of the State and community level, including such activities as central administrative services, clinics, professional consultative services, training of personnel for State and local work, and educational activities. Funds may not be used for the operation or maintenance of mental hospitals.

Funds are allocated to the States on a matching basis—two Federal dollars to every State dollar—taking into account the population, financial need, and extent of the mental health problem. Grants are made through the State mental health authority, which is the only State agency with which the Federal Government deals in the grants to States program. In most cases, this is the State health department.

PSYCHOSOMATIC MEDICINE*

JOHN F. WILLIAMS, M.D.,
Richmond, Virginia.

WORK AND WORRY

It is not work that kills men; it is worry. Work is healthy; you can hardly put more upon a man than he can bear. Worry is rust upon the blade. It is not the revolution that destroys the machinery, but the friction. Fear secretes acids; but love and trust are sweet juices.

HENRY WARD BEECHER

The concept of psychosomatic medicine is as old as man. Only the term is new. Thousands of years ago primitive treatment was not divided between the priest and the physician. The tribal healer cared for the sick mind as well as the ailing body. The great Greeks, Plato and Aristotle, as shown by their writings, understood the essential unity of man. Much later, when Virchow laid the foundation for cellular pathology, the scientific world focused its attention on the laboratory. With the development of the basic medical sciences the physician closed his mind to the great importance of the relation of emotion to disease. The study of the mind was left to the musings of the philosopher. Alexander[1], writing of the physician's attitude toward the neurotic patient, says, "In order to hide his ignorance he refused to consider them as really sick and accused them of malingering. In order to defend their scientific aura physicians had developed a distaste against their psychoneurotic patients. The psychoneurotic patient was regarded as a nuisance and felt as a living accusation against the inadequacy of prevailing methods and dogmas[1]."

Today we are entering a new era in medicine. Interest in the individual as well as his disease is becoming more widespread. It is known that emotional stress causes functional change; *but that organic change may be caused by long continued emotional stress is not fully appreciated.* Dunbar[3] says, "fifty years ago diseases such as typhoid and scarlet fever accounted for major mortality and morbidity. Now cardiovascular disease, arthritis and other chronic diseases affect mostly those in middle and later life. In 1850 more than half the population was under 20 years of age but in 1980 it is estimated that three quarters of the total population will be 20 years of age or older." According to Metropolitan Life Insurance Company statistics[2], "every other person in the United States past the age of 50 dies of cardiovascular renal disease. Probably one-half are due to essential hypertension. That is, almost one-fourth of all people past the age of 50 years die of the effects of hypertension on one or another of the vital organs. Thus essential hypertension becomes the greatest problem of middle adult life, not even excepting cancer (Hedley)[5]. The etiology of essential hypertension is not known but in this illness emotional factors play an important and often determining role."

Halliday[4] in the *British Medical Journal* reports "an increase in chronic and recurring neurotic illnesses as well as in many examples of organic sickness labeled by such terms as anaemia, peptic ulcer, bronchitis, etc. (psychosomatic illnesses)."

The present day physician receives little or no training in the application of psychobiological principles. Therefore he is not fully prepared to understand nor treat the diseases which will constitute the bulk of his medical practice. From the foregoing it is obvious that the need for psychosomatic medicine is great indeed.

At the meeting this spring of the American Society for Research in Psychosomatic Problems Inc., significant papers were read on psychosomatic disorders of muscles, bones and joints. In a partial analysis of 200 cases recently reported by me it was shown that 66 or 33 per cent were incapacitated because of gastro-intestinal or musculo-skeletal disorders[6].

The following abbreviated case reports illustrate typical psychosomatic problems.

No. 1. A 45 year old married white executive complained of "pain in the back of my head. I get dizzy at times and my sight is not good when I get nervous. I have been treated by four doctors but no one seems to find the cause of my trouble."

The physical examination showed the B.P. to

*Read at meeting of Medical Society of Virginia in Roanoke, October 13-15, 1947.

be 174/120 right and 192/130 left. The retinal arteries were moderately vasospastic. No other significant findings were noted. Family history: His mother died of cancer at the age of 50 years and his father of meningitis at 56 years. Two married sisters are being treated for high blood pressure and his wife is under treatment for "heart trouble."

Life situation: The family was poor. The father did not learn to read and write until after the patient was born. Thereafter the father drove himself and finally attained a fairly good position. The patient was in poor health until he entered school at the age of 7 years. He could read, write, and do simple arithmetic before entering school. After school he worked at two paper routes. As a child he saw his maternal grandfather die of a heart attack. He left high school after the second year and went to work. Working hard by day and studying at night he advanced himself rapidly. At 19 years he completed apprenticeships and held "cards" in two trades. He felt every insecure during this period. He married at 23 years and later two children were born. Working for a large organization he pushed himself hard and received many promotions which caused him to assume heavy responsibilities. During an early interview he said "My father was very quick tempered. I'm like him. When things don't go right after I start then I get mad. But I've learned to control that—I hold it in." His work became very heavy. He was forced to spend 16 to 18 hours on the job for several months before consulting me. During this period his mother-in-law died in his home of cerebral hemorrhage.

Treatment: No further B. P. readings. Mild sedation. Following preliminary interviews his life situation in relation to his symptoms was gradually explained to him as follows: He had attained his goal. He was secure in his job and had attained financial independence. The drive which forced him to overwork was no longer necessary. He accepted simple explanation of the effects of repressed aggression. He no longer discussed B.P. The occipital headache, dizziness and disturbances of vision disappeared. He is now symptom-free and contented.

No. 2. A 35-year-old white unemployed widow complained as follows: "My stomach is so tight when I eat I get sick. At night I tremble so . . . all over. When I'm in crowds or when someone comes in the house I get a jumping in my breast and feel pain here (places hand over her left breast). I'm afraid. Will I lose my mind?"

The physical examination was not remarkable except for moderately severe malnutrition.

Her mother and father are living and well and 2 brothers and 3 sisters are living, married and well.

Life situation: The patient was the fifth of 6 children. She had pleasant memories of her childhood and except for a few minor illnesses had always enjoyed good health. At 19 she married, made a good adjustment and they were very happy. Her husband was drafted early in World War 2 and in May 1945 he was killed in action. She felt numb following notification of his death and could weep very little. She became tense and restless. In August 1945 her menstrual periods became irregular and she developed premenstrual backache and cramping. In November 1945 she had little appetite and realized that she had lost "some weight". Morning nausea began when she would attempt to eat. She began to have attacks of shortness of breath, her palms would sweat and she would feel faint and weak during the day. At night she found sleep difficult.

During this period she was treated by several physicians with estrogens, bromides and various tonics. She was told, "stop worrying . . . there's nothing the matter with you . . . get your mind off yourself. You must eat or you'll have a breakdown." She was referred to me in February 1946.

Treatment: She was assured of her sanity. All strict orders to eat, sleep, exercise and the like were canceled. Parenteral fluids and vitamins in large doses were given at the office, and mild sedation prescribed. She was encouraged to talk freely and at length of her husband and of their former happy life together. During the third interview she wept unrestrainedly and said, "I feel better". Her progress was good. Her appetite returned, she slept better and went to a movie with enjoyment.

Two months following her first interview she received a large package containing the personal effects of her dead husband. This was followed by a return of all her symptoms. When the articles were finally disposed of she felt relieved, and her symptoms subsided. One month later she met a

former suitor who repeatedly asked her for dates. In an interview following this she complained of constant dull headache and insomnia. She felt very guilty about her new boy friend, saying: "I would not be true to my husband. I would feel as if I were cheating on him." This situation was handled in the next few interviews and soon she was going out to parties and dances several times a week. She became entirely symptom free. She gained in weight, ate with good appetite and slept well. Her boy friend's proposal of marriage was accepted. This was followed by a light, and evidently final, return of some of her symptoms, which were relieved following one interview. At her suggestion the boy friend consulted me for premarital advice. Their marriage is successful. They are happy and well.

No. 3. This 23 year old married white girl was referred because of "nervousness" and left-sided backache. The past history and family history are not significant. She had two small children. She had always felt well until the onset of her present illness 2 years ago.

Life situation: The husband was a semiskilled factory worker who disliked his job. The patient operated a small store during the day and with some help, cared for the 2 children and her house. She had been treated by 4 physicians. The onset was gradual. She felt "nervous", began to lose weight and became restless at night. She developed pain in the lower left back which she felt as "deep-away down in me. It runs down to my side and comes on when I go to bed." Her condition became steadily worse. The usual remedies for pain did not help. She got relief only when she left the double bed and walked about the house at night.

Complete gastro-intestinal, gynecological and orthopedic studies, including the necessary X-rays were done and all findings were within normal limits.

Treatment: During the interviews the patient told of her dissatisfaction and disappointment with her marriage. She was encouraged to talk about this but no definite advice was given. Following several interviews she said that there was some connection, she thought, between her pain and sleeping in the same bed with her husband. At her request her husband came to see me because of his "aching feet" and in the interview told at length of his unhappy state. He disliked his job, regretted his marriage and wanted to return to his former work in another city as a salesman. Singly and together they were permitted to see the obvious relation of their dissatisfactions with their ailments. They were advised to return home and work out some reasonably acceptable plan that would be mutually agreeable. In 3 weeks the wife returned and informed me of satisfactory arrangements for divorce. Since leaving the double bed and sleeping in another room she became symptom free. She visited me again 3 months later to say that she never felt better. She appeared in excellent health.

In conclusion, the application of psychosomatics should be taught in our medical schools. Too often the clinic patient is shifted from one sub-specialty of medicine to another. This bewilders him and confuses the student. In the resulting thick chart one seldom finds evidence of attempts to integrate the individual. The person is forgotten in the study of his organs. Our teaching neglects . . . and the student is not permitted to learn . . . that the patient is, as Rennie* says, "a living human being in distress."

BIBLIOGRAPHY

1. Alexander, Franz: Psychological Aspects of Medicine, *Psychom. Med.* **1**:11, 1939.
2. Dublin, L. I., and Lotka, A. J.: Twenty-five Years of Health Progress. New York. Metropolitan Life Insurance Co., QOEU 1937.
3. Dunbar, Flanders: Psychosomatic Diagnosis, Paul B. Hoeber & Co., New York, 1943.
4. Halliday, J. L.: Social Pathology. *Brit. Med. J.* **2**: 1012, 1938.
5. Hedley, O. F.: An Etiological Study of 450 Cases of Heart Disease. *Pub. Health Rep.* **50**:1127, 1935.
6. Williams, John F.: Psychosomatic Medicine, *Va. Med. Mo.* **74**:401, 1947.
7. Zilboorg, Gregory: Psychosomatic Medicine: A Historical Perspective, *Psychom. Med.* **6**:3-6, 1944.

1001 West Franklin Street.

DISCUSSION

DR. R. C. SIERSEMA, Richmond: It is with interest that one observes the growing importance of psychosomatic medicine. As one reflects, it would seem strange that such a vital link in our diagnostic and therapeutic principles should have remained dormant for so long a period of time. Regardless of one's trend in the profession, whether he is a general practitioner or one in a specialty,

*From Rennie's paper on undergraduate training read at the Annual Meeting of the American Society for Research in Psychosomatic Problems, Inc., Atlantic City, May, 1947.

he is daily confronted with diagnostic problems which might or might not have a psychosomatic element.

It might seem practical for the discussion to classify patients as a whole into three groups, including in the first those who have, after a thorough study, sufficient findings and history to justify the diagnosis of a psychoneurosis. A second group, those who have a definite and obvious pathological entity—an acute gall bladder, a pneumonia, or a strep throat. The third group is one which creates a real problem. In it we shall include an individual who has, and justly so, been classified as a psychoneurotic but who now has definite organic pathology. There is nothing to prevent a person who has had a gastric neurosis from developing a carcinoma of the stomach, the patient with spastic colitis a malignancy of the colon, or the patient with a pseudo-angina from developing a coronary thrombosis.

It is with this third group that one must remain constantly on the alert. It is all too easy to make a hasty diagnosis of a gastric neurosis in the rush of one's practice, to find later that some colleague has demonstrated a carcinoma of the stomach because he has taken a more adequate history and has used the diagnostic possibilities of X-ray, etc.

In my field of general surgery we are finding more and more occasion to call upon the group trained in psychosomatic medicine, who are more qualified than we to evaluate certain patients. We have all seen patients who have multiple abdominal scars, reminders of surgical attempts over a period of years to relieve what appeared to have been definite entities, come into the office with the original complaint of bygone days. The intent of the surgeon and his operative skill have been above reproach, but the patient has not been cured. This patient might have been carried along nicely without surgery, guided in proper ways of thinking and doing by our psychosomatic colleague.

A patient who has a suggestive but not clear-cut gall bladder presents herself for study, and the physical findings are equally as indefinite. She is emotional and has menopausal symptoms, domestic troubles, etc. The cholecystogram reports a gall bladder that should show pathology, and we are left in somewhat of a quandary. This is the type of patient in whom a psychosomatic estimation might well be made; it is also the type in whom the cholecystectomy syndrome is quite prevalent.

We have recently had a patient who presented a problem not too frequently seen. Several months ago this patient had a radical mastectomy for carcinoma of the breast. Prior to surgery it was obvious that she was emotionally upset. Her postoperative course was quite uneventful. She left the hospital and, according to the family, adjusted fairly well at home. Vague complaints were registered about her lower extremities, and then one morning she said that she could not move her legs. It would have been easy, on her re-admission to the hospital, to have classified this as a major hysteria, for studies including a thorough neurological study were not too conclusive. Her course was rapidly down hill, with continuation of the paralysis, high temperature, coma, and death. A post on this patient showed metastases to the liver and a spinal cord described grossly by the pathologist as "mushy". This patient had definite metastases to the cord, a rare occurrence.

In closing, I should like to present one more case representing a type which, too, presents a problem. This is a patient who has been under the guidance of Dr. Williams for some time and has been kept rather stable. While bathing she noticed a tumor mass about the size of a walnut in the superior medial pole of the left breast. One can appreciate what this woman, forty-eight years of age, immediately thought it was. To physical findings it had all the characteristics of a cystic mass, perhaps a blue-dome cyst. Even though it appears perfectly benign it was our thought that it should come out. There are many angles to this case, and it is well for the surgeon to allow the one trained in psychosomatic medicine to use the proper finesse necessary to carry this patient through the emotional bumps of the procedure to follow.

DR. WILLIAMS, closing the discussion: It gives me much pleasure to know that surgeons such as Dr. Siersema are beginning to consider the patient as a whole, and I appreciate his thoughtful discussion of my paper.

We have heard much today about psychosomatic medicine. The time has come when the future general practitioners and specialists in the teaching clinics should be taught to integrate the patient—not to fragment him.

MISCELLANEOUS

FACILITIES AVAILABLE AT THE TOXICOLOGICAL LABORATORIES OF THE CHIEF MEDICAL EXAMINER OF VIRGINIA

Dr. Herbert S. Breyfogle, Chief Medical Examiner of Virginia, with offices at 404-406 North Twelfth Street, Richmond, has prepared the following statement on facilities available at his laboratories:

1. Toxicology:
   - (A) Complete qualitative and quantitative analysis of postmortem material for the presence of chemicals, drugs, and other toxic agents such as: arsenic, mercury, fluorides, cyanide, phosphorus, anesthetics, chloral hydrate, barbiturates, strychnine, morphine, atropine, etc.
   - (B) Determination of alcohol levels in blood, urine, and other body fluids.
   - (C) Determination of carbon monoxide in blood.
   - (D) Determination of silica content in lung.
2. Food, Drug and Narcotic Analyses (chemical, microscopic, and pharmacology) of questioned purity and other materials such as unknown capsules, tablets, pills, residues, marihuana, etc. for identification.
3. Analysis of Blood and Blood Stains:
   - (A) Positive identification.
   - (B) Origin (human or animal).
   - (C) Grouping.
4. Analysis of Stains in Questions of Rape: Spermatozoa and seminal fluids, etc.
5. Clinical Cooperation with Accredited Agencies:
   - (A) Lead determinations of urine, blood, etc.
   - (B) Identification of toxic agents present in stomach lavage, urine, blood, residue, etc. in questions of poisoning in emergency cases.
6. Hair and Fibre Identification.
7. Spectrographic Analysis for Metal Constituents:
   - (A) Body tissues and fluids.
   - (B) Criminologic comparisons of dirt, residues, metal filings, etc.
8. In Cooperation with State and Local Law Enforcement Agencies:
   - (A) Isolation and identification of specific incendiaries, streamers, or accelerants in suspected arson.
   - (B) Restoration of filed off serial numbers removed from guns, automobiles, typewriters, etc.
   - (C) Chemical assistance in preparation of expensive commerical reagents such as latent fingerprint dusting powders, grapho-detector (erasure indicator).
9. Suggestions and Consultations and Expert Court Testimony when indicated on Any of the Above Related Subjects.

PROCEDURES TO BE FOLLOWED IN SUBMITTING SPECIMENS FOR TOXICOLOGIC ANALYSIS

1. Submit a record of (a) antemortem symptoms, (b) drug and drinking habits, (c) time interval between last food and drink and onset of symptoms and death, (d) exposure of others, (e) medical treatment, (f) access or exposure to drug.
2. Submit postmortem findings: (a) distinct odors or colors, (b) burns on skin, mouth or gastrointestinal tract, (d) gross pathologic changes.
3. Submit all drugs and food and drink suspected to be the fatal agent.
4. Preservation and shipment of specimens:
   - (a) *Do not send embalmed organs.*
   - (b) Specimens should be refrigerated or iced after removal and during transmittal.
   - (c) Use a separate container for each specimen, preferably a wide mouth mason jar.
   - (d) Seal all packages that are to be submitted for analysis.
   - (e) Submit CME Form No. 8 with specimen.
   - (f) Request city, county, or state police for aid in transmittal.
5. Selection of specimens:

In cases of death of unknown cause, where poison is suspected submit at least:

(a) Blood _____250-500 cc (10cc for Alcohol or carbon monoxide)
Urine _____All available
Stomach ___All available
Liver _____Approximately ⅓
Kidney ____1 kidney
Brain _____Approximately 500 Gm.

(b) Special Problems
1. Portal of entry: lung, stomach contents, uterus skin, urinary bladder.
2. Chronic poisoning: (a) bone (lead; arsenic; radium); (b) hair and nails (arsenic).

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for July, 1948, as compared with the same month in 1947, and for the period of January through July, 1948, compared with the same period in 1947, is as follows:

	July 1948	July 1947	Jan.-July 1948	Jan.-July 1947
Typhoid and Paratyphoid	20	11	82	53
Diarrhea and Dysentery	503	398	2,155	3,074
Measles	473	318	5,966	7,327
Scarlet Fever	43	25	605	845
Diphtheria	16	8	134	145
Poliomyelitis	89	9	111	26
Meningitis	6	8	57	72
Undulant Fever	10	14	57	43
Rocky Mountain Spotted Fever	17	20	39	40
Tularemia	7	2	36	33

POLIOMYELITIS 1948*

The number of cases of poliomyelitis rose from ten during June to 93 during July, 1948, with a gradual weekly increase to 42 in the week of July 26-31. For July, 1948, the number of cases was ten times those reported in 1947 and about ten times those expected this year, estimated from the reported cases for the preceding five years. It was noted a year ago that 49.3% of all poliomyelitis reported in the last twenty years has occurred in August and September with an additional 31.5% in July and October. This should be noted in dealing with the rest of the current season.

The high concentration which has occurred in large cities in the past, has not been true this year. The percentage in city areas for January-June 1943-47 was 35.1%, but for 1948 was 19.1%.

A more hospital-conscious public and close team work with the hospitals and National Foundation for Infantile Paralysis has given us more clearly defined criteria of diagnosis and less confusion in reporting. Also the full cooperation of the public press has been outstanding.

Attention is called to U. S. Public Health Reports, which find in the early part of the season 64% of all cases occurring in three states: North Carolina, California and Texas. To date North Carolina has outstripped them all. A visit was made by representatives of the Virginia State Health Department to North Carolina to observe conditions there. The attack rate was found to be greatest in the central-western third of the State. Approximately ¾ of the cases occurred in the white race. The age has ranged from 4½ months to 48 years with most of the cases less than fifteen years of age. As of August, 5, 1948, there were 1,199 cases reported in North Carolina. During the 1944 Epidemic there were 412 cases reported for the same period.

Until more is known about poliomyelitis, the U. S. Public Health Service recommends:

(1) The infected individual, contacts and environment:

- (a) Voluntary isolation for two weeks from onset.
  Restriction of visitors and usual bedside care and disinfection.

(2) General measures:

- (a) Protection of children against unnecessary contacts with other persons, especially those in epidemic areas.
- (b) Guard against over-fatigue or sudden chilling, especially in case of known exposure.
- (c) Avoid unnecessary travel.

*Continued from August issue.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS DEPARTMENT

HENRY S. JOHNSON, *Director*

Radio Programs

Within the past month three additional stations have started to broadcast "Tell Me Doctor", making a total of eight stations now using this series of health and medical care programs furnished by the Society.

No money at all is spent for air time, which means that the stations are giving this time as a public service.

To hear these programs, members of the Society and others whose attention may be called to them should tune in on the following:

WOPI-FM, Bristol, 1:10 p.m., Monday through Friday

WCHV, Charlottesville, 10:15 a.m., Monday, Wednesday and Friday

WBTM, Danville, 11:30 a.m., Monday through Friday

WLVA, Lynchburg, 1:15 p.m., Monday through Friday

WTAR, Norfolk, 8:55 p. m., Sunday

WRNL, Richmond, 2:56 p.m., Saturday

WDBJ, Roanoke, 3:55 p.m., Monday through Friday

WINC, Winchester, 4:30 p.m., Monday, Tuesday, Thursday and Friday; 1:55 p.m., Wednesday

Veterans Medical Care Program

At a recent meeting of the Veterans Affairs Committee (Review Board), several questions were raised concerning some functional aspects of the medical care program for veterans in Virginia. Answers to these problems were obtained from the Veterans Administration.

Since these matters are of importance to all physicians participating in the program, the questions and answers are printed below.

1. If a veteran being treated must enter a hospital, does it have to be a Veterans Administration hospital? If he can go to a private hospital, will the VA pay the bill?

Under ordinary circumstances, the veteran must go into a VA hospital. If there is no bed available in a VA hospital or if the case is an emergency, other hospitals may be utilized, in which case the VA would pay the hospital bill. If the veteran does go to a local hospital, authorization must be requested from the Roanoke VA Office within 72 hours after he enters.

2. If the original doctor refers the veteran to another physician for consultation or treatment, is another authorization from the VA necessary before the second doctor can begin treating the patient?

The original doctor should notify the Roanoke Office so that an amendment can be made to the veteran's authorization for treatment or so that a new authorization can be issued. No treatment should be undertaken by the second doctor until the new or amended certificate is received, except in emergencies.

3. Does the $6,000 yearly maximum include both the payments a doctor would get as a consultant or attendant at a VA hospital and also the fees payable under this program?

The $6,000 maximum includes all money received from the VA in any capacity. This limit cannot be exceeded without prior approval of the VA's Chief Medical Director.

4. In communicating with the Roanoke VA Office concerning the Veterans Medical Care Program, who should be contacted?

Address all queries to Dr. M. A. Stuart, Chief Medical Officer.

As other questions on this program come to the attention of the Veterans Affairs Committee, an attempt will be made to provide the answers in this manner, to also serve the purpose of others who may be interested.

BOOK ANNOUNCEMENTS

Practical Bacteriology, Hematology, and Parasitology. By E. R. STITT, M.D., Ph.M., Sc.D., LL.D., Rear Admiral, Medical Corps, and Surgeon General, U. S. Navy, Retired; etc.; Paul W. Clough, M.D., Physician-in-Charge of the Diagnostic Clinic, Johns Hopkins Hospital; and Sara E. Branham, M.D., Ph.D., Sc.D., Senior Bacteriologist, National Institute of Health; etc. Tenth Edition. The Blakiston Company, Philadelphia. 1948. 991 pages, 765 illustrations, and color plates. Cloth. Price $10.00.

Although no one ever gives up his old edition of this famous work, the new 10th Edition will be found to supersede quite completely the previous and earlier editions. Extensive revision and rewriting has incorporated the great advances of the war years. The Bacteriology Section, for example, has been completely revised by Dr. Branham of the National Institute of Health. The Classification of Bacteria is based on that introduced by the new Sixth Edition of Bergey's Manual. Correlated with this up-to-date classification are the new procedures for studying the enteric bacteria, typing pneumococci and meningococci, determining Lancefield's groups of streptococci, and the use of developing hen's egg for cultivation of bacteria, rickettsia and viruses.

The Hematology Section has been revised to include new knowledge on pernicious anemia, sprue and hemolytic anemias. New material on sternal marrow biopsy, blood grouping, Rh factor, "cold" autohemaglutinins, Vitamin K deficiency, prothrombin time, preservation of blood and blood substitutes has been introduced.

The Parasitology Section has been rewritten and brought up to date. Medical Entomology is especially well presented.

The book still contains a great deal of fine print, a temporary handicap for the initial user. Many excellent new illustrations, particularly in the Parasitology Section, will enhance the usefulness of the manual. The authors stress the assistance provided by the section—Laboratory Procedures Useful in Diagnosis, Indexed by Disease. It could be improved by giving page references for all items indexed instead of just a few. The user will want to do this. The occasional introduction of references of "personal communication" appear undesirable to the writer. Although frequent author, date references occur, there is no bibliography and readers must search the literature for the original papers.

E. C. N.

Textbook of Human Physiology. By WILLIAM F. HAMILTON, Ph.D., Professor of Physiology of University of Georgia School of Medicine. Philadelphia, F. A. Davis Company, 1947. xvi-504 pages. With 121 Illustrations. Cloth. Price $6.00.

The aim of this volume is to present to medical students the general principles of human physiology in the simplest possible manner. It is offered as a guide to beginning students and the content of the book has been restricted to essentials. The author admits that much of importance has been left out. In general, controversial matter has been omitted, nor is a bibliography included. The needs of the average medical student have been considered in selection and treatment of subject matter.

As an introduction and companion to the more detailed texts in physiology, the medical student will find this book an aid. Physicians will find it of value as a source of succinct physiological information.

E. C. H.

Neuroanatomy. By FRED A. METTLER, A.M., M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Second Edition. St. Louis. The C. V. Mosby Company. 1948. 536 pages. With 357 illustrations, including 33 in color. Price $10.00.

This textbook of neuroanatomy has several outstanding features which are especially useful to the neurologist and surgeon. The section on the gross anatomy of the brain and spinal cord is unusually complete. The illustrations dealing with the vascular supply are exceptionally good. Practically all of the plates in this section are original drawings of photographs. In the section on the microscopic anatomy of the brain and cord, no textbook in this field can equal Dr. Mettler's organization of the thalamic and hypothalamic nuclei. Finally, the forty-seven pages of references should be very useful to students in this field.

E. H. I.

PROGRAM

(PRELIMINARY)

101st MEETING

MEDICAL SOCIETY OF VIRGINIA

JOHN MARSHALL HOTEL
RICHMOND

OCTOBER 18, 19 and 20, 1948

Sunday, October 17
5:00 P.M.
Council

8:00 P.M.
House of Delegates

Monday, October 18
8:15 A.M.
Motion Picture

9:00 A.M.
Scientific Sessions
Virginia Room

THE CONTROL OF PERIPHERAL CIRCULATORY STASIS BY THE ELECTRICAL STIMULATION OF LARGE MUSCLE MASSES—(*Motion Picture*)—Frank L. Apperly, M.D., and M. Katharine Cary, A.B., Richmond
Discussion—I. A. Bigger, M.D., Richmond

INJURIES OF THE CARPAL BONES — (*Lantern Slides*) — George Cooper, Jr., M.D., and Charles Frankel, M.D., Charlottesville
Discussion—George A. Duncan, M.D., Norfolk

ACUTE PANCREATITIS—Hugh H. Trout, Jr., M.D., and Horace A. Albertson, M.D., Roanoke
Discussion—R. P. Bell, M.D., Staunton

Recess to Visit Exhibits

ARTERIOSCLEROTIC HEART DISEASE IN DIABETICS—Robert L. Bailey, Jr., M.D., Richmond
Discussion—J. Edwin Wood, Jr., M.D., Charlottesville

RECENT TRENDS IN TREATMENT OF OBESITY—Homer E. Ferguson, M.D., Richmond
Discussion—Julian R. Beckwith, M.D., Clifton Forge

NITROGEN MUSTARD TREATMENT OF HODGKIN'S DISEASE—H. St. George Tucker, Jr., M.D. and William R. Kay, M.D., Richmond
Discussion—Byrd S. Leavell, M.D., Charlottesville

Monday, 2:30 P.M.

CLINICAL ASPECTS OF ELECTRO-ENCEPHALOGRAPHY—(*Lantern Slides*)—James B. Funkhouser, M.D., Richmond
Discussion—I. S. Zfass, M.D., Richmond

SUBSHOCK INSULIN THERAPY IN ANXIETY STATES—R. Finley Gayle, Jr., M.D., and Claude L. Neale, M.D., Richmond
Discussion—Daniel Chiles, M.D., Radford

RECOGNITION AND TREATMENT OF PRE-SCHIZOPHRENIC STATES—David C. Wilson, M.D., Charlottesvillle
Discussion—Howard R. Masters, M.D., Richmond

4:00 P.M.

PANEL DISCUSSION—*Medical Care*
Moderator—H. B. Mulholland, M.D.
Charlottesville

Monday, 6:00 P.M.
Alumni Dinners
Medical College of Virginia
University of Virginia, Department of Medicine

Monday, 8:00 P.M.
General Session
Virginia Room

Call to Order—Charles L. Outland, M.D., Chairman, Committee on Arrangements
Invocation—Reverend J. J. Scherer, Jr., D.D.
Welcome—
H. Hudnall Ware, M.D., President, Richmond Academy of Medicine
Mayor City of Richmond
Address by President—Guy Rothwell Fisher, M.D., Staunton

Address by Invited Guest—
R. B. Kirklin, M.D., Rochester, Minnesota—SPECIALIZATION

Memorial Hour—B. E. Harrell, M.D., Chairman, Membership Committee

Awarding of Certificates to Members in "Fifty Year Club"

Tuesday, October 19
8:15 A.M.
Motion Picture

9:00 A.M.
Scientific Sessions
Virginia Room

ACUTE THROMBOCYTOPENIC PURPURA FOLLOWING MASSIVE HORMONE THERAPY IN A PREGNANT DIABETIC—Duvahl B. Ridgway, M.D., Roanoke

Discussion—William R. Jordan, M.D., Richmond

THE VARIABLE CLINICAL MANIFESTATIONS OF SICKLE CELL ANEMIA—William H. Higgins, Jr., M.D., and Elam C. Toone, Jr., M.D., Richmond

Discussion—James P. Baker, M.D., White Sulphur Springs, W. Va.

Address by Invited Guest—

Recess to Visit Exhibits

THE EARLY DIAGNOSIS OF BRAIN TUMOR—Claude C. Coleman, M.D., John M. Meredith, M.D., and Charles E. Troland, M.D., Richmond

Discussion—W. Gayle Crutchfield, M.D., Charlottesville

THE TREATMENT OF MALIGNANT MELANOMAS—(*Lantern Slides*) — Harry J. Warthen, Jr., M.D., Richmond

Discussion—Robert Lee Payne, M.D., Norfolk

1:00 P.M.
Special Society Luncheons
2:30 P.M.

AN UNUSUAL CASE OF HYDROCEPHALUS WITH SOME COMMENTS ON DELIVERY—Chester D. Bradley, M.D., Newport News

Discussion—A. M. Groseclose, M.D., Roanoke

MENINGITIS IN INFANCY—William B. McIlwaine, III, M.D., and Herman Farber, M.D., Petersburg

Discussion—Edwin L. Kendig, Jr., M.D., Richmond

Recess to Visit Exhibits

THE USE OF THE ANTI-HISTAMINE DRUGS IN DERMATOLOGY—Edwin E. Barksdale, M.D., Washington, D. C. and George Ellis, Lt.(j.g.), MC, Bethesda, Maryland

Discussion — Raymond D. Kimbrough, M.D., Richmond

THE ADVANTAGES AND LIMITATIONS OF HORMONE THERAPY IN BENIGN AND MALIGNANT PROSTATISM—(*Lantern Slides*)—Linwood D. Keyser, M.D., Roanoke

Discussion—Samuel A. Vest, M.D., Charlottesville

THE INJECTION TREATMENT OF INTERNAL HEMORRHOIDS—Robert V. Terrell, M.D., and C. C. Chewning, Jr., M.D., Richmond

Discussion—T. Neill Barnett, M.D., Richmond

6:30 P.M.
Cocktail Party
7:30 P.M.
Banquet and Entertainment

Wednesday, October 20
8:15 A.M.
Motion Picture

9:00 A.M.
Scientific Session
Virginia Room

INDICATIONS FOR CATARACT SURGERY AND RECENT ADVANCES — (*Lantern Slides*) — E. G. Gill, M.D., Roanoke

Discussion—E. W. Burton, M.D., Charlottesville

PROTEIN DEFICIENCY IN SURGICAL PRACTICE—Charles S. White, M.D., Washington, D. C.

Discussion—Everett I. Evans, M.D., Richmond

SPONTANEOUS HEMO-PNEUMOTHORAX—(*Lantern Slides*) George A. Welchons, M.D., and John P. Lynch, M.D., Richmond

Discussion—J. R. Massie, M.D., Richmond

A CRITICAL ANALYSIS AND FOLLOW-UP STUDY ON A GROUP OF PATIENTS SUFFERING WITH CANCER OF THE STOMACH TREATED SURGICALLY—(*Lantern Slides*)—J. M. Emmett, M.D., and Sam McDaniel, M.D., Clifton Forge

Discussion—C. Bruce Morton, M.D., Charlottesville

Address by Invited Guest—
Harrison F. Flippin, M.D., Philadelphia—
RECENT DEVELOPMENTS IN ANTIBIOTIC AND SULFONAMIDE THERAPY.

Installation of M. Pierce Rucker, M.D., as President.

Adjournment.

TECHNICAL EXHIBITS

Technical Exhibits will be set up in the Lobby and on the Mezzanine at the John Marshall Hotel. The following is a list of exhibitors with a brief description of each exhibit:

Booth No. 1

J. B. Lippincott Company

Philadelphia, Pennsylvania

J. B. Lippincott Company presents an interesting and active exhibit of professional publishing. With the "pulse of practice" centering in an advisory editorial board of active clinicians who constantly review the field, current and coming trends in medicine and surgery are known continually. On the studied recommendations of these medical leaders, Lippincott Selected Professional Books are undertaken.

Booth No. 2

Schering Corporation

Bloomfield, New Jersey

Among the new pharmaceutical and hormone preparations developed in the Schering research laboratories, *Micropellets Progynon* will be featured. This new potent form of the female sex hormone, alpha estradiol, provides maximum results at minimum cost to the patient. *Combisul* and *Combisul Liquid,* the triple sulfonamide combinations which eliminate the dangers of sulfonamide renal damage will also be presented. *Trimeton,* the outstanding antihistaminic will highlight the exhibit. Schering Professional Service Representatives will be present to welcome you and will be happy to answer your inquiries.

Booth No. 3

General Electric X-Ray Corporation

Richmond, Virginia

The General Electric X-ray Corporation is again happy to have a display at the Annual Meeting. Since last year we have completed the move of our headquarters and factory from Chicago to Milwaukee. The new Cardioscribe (Direct-writing Electrocardiograph) will be on display. Representatives from both Richmond and from Charleston, West Virginia, offices will be present.

Booth No. 4

A. S. Aloe Company

St. Louis, Missouri

Booth No. 5

Powers & Anderson, Incorporated

Richmond, Virginia

Powers and Anderson will exhibit in Booth No. 5 the latest designs in physicians' office equipment, instruments, and supplies. In attendance at the booth will be Robert E. Anderson, Jr., Charles T. Brown, Jr., H. C. Haun, E. G. Johnson, and M. C. Thompson. We also issue a cordial invitation to all attending this Convention to visit our store which is only one block South of the John Marshall Hotel.

Booth No. 6

Doak Company, Incorporated

Cleveland, Ohio

Doak Company exhibits nationally known dermatological preparations. Each is based on the late advances in chemistry and research in dermatology. Latest additions to the Doak specialties are: *Salinidol* (Salicylanilid, Hyamine and Carbowax water soluble paste), indicated in ringworm of scalp; *Titanium Dioxide Cream,* as screen, ointment base; *Tarpaste,* carefully standardized distillate of true coal tar in zinc oxide and starch paste. Clinical material and literature available upon request.

Booth No. 7

Parke, Davis & Company

Detroit, Michigan

Members of the Medical Service Staff of Parke, Davis & Company will be available for consultation and discussion relating to regular products classified in our Pharmaceutical, Biologic and Medicinal Lists. Unusual Specialties of recent development—Benadryl, Etamon Chloride, Oxycel, Thrombin Topical, Influenza Virus Vaccine, Antibiotics, Hypnotics, Amino Acids, and various Biologics will be featured in the Exhibit. You are cordially invited to call at our Exhibit with the assurance your interest will be appreciated.

Booth No. 8

Bilhuber-Knoll Corporation

Orange, New Jersey

A prescription is written evidence of the physician's skill in the treatment of a disease. The Bilhuber-Knoll Corporation presents Dilaudid, Metrazol, Theocalcin, Bromural, Octin, and other fine medicinal chemicals that have established their place in the physician's individualized prescriptions.

Your visits to their Booth No. 8 and your discussions of their prescription chemicals will be welcomed.

Booth No. 9

Ciba Pharmaceutical Products

Summit, New Jersey

The Ciba exhibit of "Economical Hormone Therapy" will feature *Metandren* Linguets, the most potent oral androgen in tablets, designed for absorption through sublingual mucosa; *Lutocylol* Linguets, orally effective progestogen especially designed for sublingual absorption; and *Ethinyl Estradiol,* the most potent oral estrogen.

Representatives in attendance will gladly furnish literature and answer questions about these and other Ciba products.

Booth No. 10

E. R. Squibb & Sons

New York, New York

Presenting *Liafon* (Squibb Desiccated Liver, Ferrous Sulfate Exsiccated, Ascorbic Acid and Folic Acid) and *Crysticillin,* the new procaine penicillin G for aqueous injection.

Booth No. 11

U. S. Vitamin Corporation

New York, New York

Full color illustrated brochure "Diagnosing Vitamin Deficiencies" together with professional samples and literature on *Vi-Syneral, Vi-Syneral Vitamin Drops, Poly-B, Vi-Litron, Hypervitam, Lipo-Heplex, Dalsol, Desiver,*

Amiprote, Rutin-Rutascorb, Methischol, Tri-Sulfanyl, Vi-Syneral Injectable and others.

Booth No. 12
Mead Johnson & Company
Evansville, Indiana

Amigen and Protolysate will be on display at the Mead Johnson exhibit. Mead Johnson has pioneered the amino acid field commercially; the products have been described in more than one hundred and forty articles in the medical literature; this year they are available. Trained representatives will be at the Mead Exhibit to discuss details of the new amino acid products. Shown also will be Dextri-Maltose, Pablum, Pabena, Oleum Percomorphum and the other Mead products used in infant nutrition. Protenum, a new high-protein product, will be displayed. Also Donalac for low-sodium diets.

Booth No. 13
G. D. Searle & Company
Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Ruphyllin, for abnormal capillary fragility. Hydryllin, new and effective antihistaminic, as well as such time-proven products as Searle Aminophyllin in all dosage forms, Metamucil, Ketochol, Floraquin, Kiophyllin, Diodoquin, Pavatrine and Pavatrine with Phenobarbital.

Booth No. 14
Camel Cigarettes
New York, New York

Camel Cigarettes will present a dramatic full color review of their recent medical research on smoking, as well as the details of the nationwide survey showing that "More Doctors Smoke Camels Than Any Other Cigarette." Another panel will illustrate the absorption of nicotine in the respiratory tract. Representatives will be present.

Booth No. 15
The Borden Company
New York, New York

We invite your attention to *Gerilac,* a vitamin-fortified powdered milk for well-rounded nutrition in convalescence, pre- and post-operative diets, geriatrics, pregnancy and lactation, and soft and liquid diets.

Meet *Biolac,* a liquid modified milk for infant feeding; *Dryco,* with its formula flexibility; *Mull-Soy* for your milk allergic patients; powdered whole milk *Klim;* the improved milk sugar, *Beta-Lactose;* and the *Merrell-Soule Protein* and *Lactic Acid Milks.* Borden men are pleasant men!

Booth No. 16
VanPelt and Brown, Incorporated
Richmond, Virginia

Of special interest is Vifoliron the new and effective blood builder containing ferrous gluconate, ferrous sulfate, liver concentrate, folic acid and supplementary vitamins.

Barbidonna, sedative and spasmolytic preparation, is also being featured. This preparation is now available both in tablet and elixir forms. For common respiratory disorders, Bellaspro and Tussadine have seen wide acceptance.

Inquiries are cordially invited concerning these and other ethical pharmaceuticals of VanPelt and Brown.

Booth No. 17
The Liebel-Flarsheim Company
Cincinnati, Ohio

The Liebel-Flarsheim Company cordially invites you to stop at Booth 17 for examination and demonstration of their latest model diathermy and Bovie electrosurgical equipment. Capable representatives will be on hand at all times to answer your questions about physical therapy and electrosurgical apparatus. We hope you will stop by so we may become acquainted.

Booth No. 18
Sharp & Dohme
Philadelphia, Pennsylvania

Sharp & Dohme extend a cordial welcome to all visitors at Booth No. 18. Items on exhibit include a new dosage form of "Delvinal" Sodium Vinbarbital for the production of obstetric amnesia and analgesia. New antibiotic preparations including Tyrothricin along with "Sulfathalidine" and "Sulfasuxidine", intestinal bacteriostatic agents, are also being featured.

Booth No. 19
Eli Lilly and Company
Indianapolis, Indiana

Featured at the Lilly exhibit will be new therapeutic developments. Many Lilly products are to be on display; representative literature will be available. Lilly medical service representatives are to be in attendance to aid visiting physicians in every way possible.

Booth No. 20
Lederle Laboratories
New York, New York

You are cordially invited to visit our exhibit in Booth No. 20 where you will find representatives who are prepared to give you the latest information on Lederle products.

Booth No. 21
Valentine Meat-Juice Company
Richmond, Virginia

The Valentine Company exhibit will feature the Company's products of long standing, Liquid Extract of Liver U.S.P., Liquid Extract of Liver with Iron, Liver Injectable Crude (1 unit per cc.) and Valentine's Meat Extract.

The Virginia Convention will be the occasion for the introduction to the medical profession of two new items to the Valentine line of pharmaceuticals, namely, Dehydrocholic Acid, in tablet form, and a Protein-Carbohydrate diet supplement in micro-pulverized form.

Booth No. 22

Winthrop-Stearns, Incorporated

New York, New York

Winthrop-Stearns, Inc., extends a cordial invitation to visit its booth where representatives will be on hand to discuss the latest pharmaceutical preparations made by this firm. Featured will be Creamalin, non-alkaline, non-absorbable antacid; Tricreamalate, creamalin (aluminum hydroxide) plus magnesium trisilicate; Isuprel, new, more efficient and convenient bronchodilator-tablets for sublingual use, solution of inhalation; Neo-curtasal, sodium-free seasoning agent and Neo-Synephrine, well tolerated, prolonged decongestive.

Booth No. 23

Peoples Drug Stores, Incorporated

Washington, D. C.

Our display features the newer or most popular items of the manufacturers having exhibits at the convention. We are also showing prescription blanks and reports of illness certificates which we furnish to over 5,000 doctors in the states in which we have stores—Maryland, Ohio, West Virginia, The District of Columbia, Tennessee, Pennsylvania and Virginia.

Stop by our booth for a Convention Note Pad and Pencil.

Booth No. 24

C. B. Fleet Company

Lynchburg, Virginia

C. B. Fleet Company, Incorporated, cordially invites you to stop by Booth No. 24 for a short visit with Mr. L. S. Matthews, the representative who sees you in your office about once a year. Perhaps there is something about Phospho-Soda (Fleet), the pure, stable, aqueous concentrate of the two U.S.P. Sodium Phosphates, you would like to discuss with him.

Booth No. 25

Holland-Rantos Company, Incorporated

New York, New York

You are cordially invited to register at the Holland-Rantos booth to receive a *complimentary* Set of Koromex Diaphragm Fitting Rings for use in prescribing *Koromex Method* when conception control is indicated. Featured in this display will be the convenient and economical Koromex Set Complete, as well as standard coilspring Koromex Diaphragms and several variations for special cases. Professional samples and literature will be available on request not only of Council-accepted Koromex Jelly and Cream, but also of Nylmerate Jelly—a specific, convenient and inexpensive trichomonacide.

Booth No. 26

The National Drug Company

Philadelphia, Pennsylvania

Protinal Powder will be one of the products featured at The National Drug Company booth. The only micro pulverized intact protein preparation commercially available, it has an exceptionally high protein content, but is actually delicious. *Resinat*—the completely non-toxic anion exchange resin for the treatment of peptic ulcer and gastric acidity—will also be featured Trained professional service men will be on hand to give details on dosage and clinical results to be expected from these and other ethical specialties.

Booth No. 27

Lanteen Medical Laboratories, Inc.

Chicago, Illinois

Lanteen Medical Laboratories, Inc., cordially invite you to visit their exhibit in Booth No. 27. Featured will be the improved *Lanteen Flat Spring Diaphragm.* Representatives will be pleased to discuss a new diaphragm fitting technique with you.

Booth No. 28

White Laboratories, Incorporated

Newark, New Jersey

Booth No. 29

Philip Morris & Company

New York, New York

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

Booth No. 30

Doho Chemical Corporation

New York, New York

The makers of *Auralgan* are featuring at this meeting their new sulfa preparation *O-Tos-Mo-San,* indicated in the treatment and control of chronic suppurative ears.

Also *Mallon,* Division of Doho is introducing our new topical anesthesia Rectalgan, for relief of pain and itching in hemorrhoids and pruritis. This new therapy enjoys many advantages over the outmoded rectal suppositories and ointments.

Our representatives will be happy to explain in detail the workings of these medications. Also, to distribute Hospital Aural Instruction Charts and other charts of the anatomical and pathological diseases of the ear.

Booth No. 31

Tablerock Laboratories

Greenville, South Carolina

We invite the members of the Medical Society of Virginia to visit our exhibit during the meeting. Our representative will be glad to explain the line of prescription specialties we have to offer for your service.

Booth No. 32

William P. Poythress & Company, Incorporated

Richmond, Virginia

A cordial welcome awaits you at the Poythress exhibit booth. Descriptive literature on Sulfoton, T C S, Urophosphate, Merpectogel, Panalgesic, and other Poythress preparations will be available. Trial supplies of each of these preparations may also be arranged for upon your request.

REPORTS FOR THE 1948 ANNUAL MEETING MEDICAL SOCIETY OF VIRGINIA

Executive Secretary-Treasurer

There were two meetings of the Council during the past year—the first on February 4th (reported in the March MONTHLY, pages 143-145) and the second on April 28th (reported in the June MONTHLY, pages 305-306).

Correspondence and detail work in the executive office and in connection with publication of the MONTHLY, handled in this office, is steadily increasing, so it might be truly said "There is never a dull moment."

The number of component societies remains 48, representing 91 counties and 1 city, though the membership of several of the societies is so small it is hard for them to maintain interest as independent organizations, and there has been an inclination on the part of some to join with nearby larger societies. This would be excellent from the point of scientific programs but we have suggested that they maintain independent units for the purpose of representation in the House of Delegates. Through the efforts of one of its former members and the influx of several new doctors, Orange County Medical Society has been reactivated, and one of the component societies which has for several years had only two members now boasts a third, so we feel business is picking up.

As of August 1, 1948, the date of closing this report, the membership of the Society was 2,123 as compared with 2,083 last year—an increase of 40. We regret to report more deaths than usual during the year. A statement as to membership follows:

New members	144	
Reinstatements	3	
		147
Deaths	46	
Resignations	41	
Lost or dropped for non-payment	20	
		107
Increase		40

By order of the Council, the Society has acquired all copies of Medicine in Virginia in the 18th and 19th Centuries, published by Garrett and Massie, as they needed the storage space and an out-of-state bookdealer wished to buy them. With the exception of a few copies at the Society's office, these are stored at L. H. Jenkins, Incorporated, bookbinders of Richmond, and the Council decided to sell these two volumes to members at $1.50 apiece.

This Society was represented at both sessions of the American Medical Association by its duly elected delegates, Dr. J. Morrison Hutcheson and Dr. H. B. Mulholland. The Executive Secretary attended the Conference of State Secretaries and Editors in Chicago last December, and, upon authority of the Council, she and the assistant secretary attended the June meeting of the American Medical Association and the Medical Society Executives Conference held in Chicago at the same time.

Dr. J. E. Knight, councilor for the 8th district, died early in the year, and the President appointed Dr. Vincent W. Archer of Charlottesville to fill his unexpired term.

Dr. John H. Guss was appointed to the Department of Clinical and Medical Education to fill the vacancy created by the death of Dr. Julian L. Rawls.

Upon recommendation of members of the Fifth District, Governor Tuck advised this office of the appointment of Dr. W. J. Hagood of Clover as a member of the Medical Examining Board of Virginia, to fill the unexpired term of Dr. Beverley F. Eckles of Galax, resigned. The Governor's office has also advised of the appointment of Dr. Waverly R. Payne of Newport News as a member of the Board for the first district, and Dr. Thomas G. Hardy of Farmville for the fourth district. Both appointments are for a term of five years effective July 1, 1948.

Learning that a plan might be considered by the General Assembly to place the newly created office of the Chief Medical Examiner and the coronor system under the Police Department, Dr. Fisher, president, reactivated the Medical Examiner System Committee, Dr. Wyndham B. Blanton, chairman, to oppose any legislation which might hamper this work. Their report is included with those of other committees.

The President has also advised this office of the following appointments during the year:

Dr. H. B. Haag as delegate to the Virginia State Dental Association; Dr. C. M. McCoy to the Virginia Pharmaceutical Association; and Dr. C. L. Harrell to the Medical Society of the State of North Carolina; Dr. W. R. Whitman to represent the Society at the Graduate Nurses' Association meeting in Roanoke in April; Dr. James B. Pettis to serve as delegate to the meeting of the Regional Group on Disaster Preparedness in Philadelphia in June. Dr. J. Powell Williams represented the Society at the meeting of the Council on National Emergency Medical Service of the American Medical Association in Chicago in April. Dr. J. M. Hutcheson was representative at the meeting of the Virginia State Committee of the National Association for Practical Nurse Education in Richmond in May, and also at the meeting in Chicago in June at which representatives from the various state societies met with the Council on Medical Service of the A.M.A. to consider the plan suggested by the Blue Cross and the A.M.C.P. for the merging of their organizations.

Two months before close of the financial year, it would be impossible to give an accurate statement as to receipts and disbursements. There is a good balance in the treasury, however, and an audited statement will be on hand at time of the state meeting.

This report would be incomplete without a word of appreciation to the officers, committees, county societies, and individual members for the cooperation given this office at all times.

AGNES V. EDWARDS.

Director, Public Relations

Our program and activities for the current year have deviated little from those of the preceding year. Of course, items have been incorporated, and extension of others may be in order, but we are following in the main the pattern set up at the beginning of our work.

Our radio program is extended to six months this year, instead of three months in 1947. We are providing three different types of materials to the newspapers this year, instead of one last year. Some papers are using two and some are using all three each week.

Work in connection with setting up the Veterans Medical Care Program has been long and tedious. Materials have been printed and furnished to every member of the Society, and applications for participation were also sent to each one of them.

Our conferences for Members of the District Council were held in seven of the Congressional Districts this year. As an outgrowth of these, many splendid suggestions have come to us, and we are endeavoring to incorporate these in our over-all program. To illustrate, in one of these conferences it was agreed that the doctors in the District would arrange to meet the girls of the senior classes in the high schools for a discussion of nursing as a career and what it offers, with the view of better acquainting them and possibly inducing more applications for nursing training. These conferences not only served the purpose of discussions among Members of the District Council, but also were constructive in that a number of Presidents of local Societies, officials of the Medical Society of Virginia, prominent laymen, members of the Virginia General Assembly and guests from outside the State participated in some of these.

Every conference brought suggestions, new ideas and other items that could well enter into constructive planning, which you could easily understand if you saw one of our lists of items for discussion in one of the Public Relations Committee meetings. Some want us to get out a monthly news letter, others want us to set up an effective bureau of placement for doctors (with particular reference to rural areas), still others want us to prosecute "the herb peddlers", etc. The list of these items that the public would like us to do is just as long as that which the doctors suggest. We have endeavored to channel these matters through appropriate committees and functions of the Society, and we feel that the Society is to be congratulated on the extent to which matters of a socio-economic nature are getting a prominent place in the thinking and discussions of our doctors and lay public.

Our attendance at conferences outside the state, such as the ones at Philadelphia, Atlanta, New Orleans, Cleveland and Chicago, has given us a broader point of view and a better concept of the means that might be employed in our work in Virginia.

Matters of the budget are checked with the Executive Secretary, and although we shall probably not turn back to the General Fund a sum comparable to the approximately $11,000 returned last year, we shall be glad if we can have a balance at the end of the year.

Only in instances of conflicts have we failed to accept an invitation to meet with a local Society, appear before a civic group or make contacts where it was deemed advisable.

Your Department of Public Relations has not accomplished all that it wished, but it has desired to be informed, cautious, yet alert and effective. As hopeful as we may be of a program with the public, we should not overlook the importance of a point of view that represents the thinking of all of our doctors in the state, and the further fact that our effectiveness is to be dependent not only upon the understanding, but upon the cooperation and active support given by the entire membership of the Society. In this connection, it is hoped that our Councilors and Members of the District Council will do an effective piece of work with the membership in the local Societies.

Public relations is not a matter of mere acquiescence; it is a matter of broad vision, positive planning and vigorous activity.

As we observe other state medical societies, we believe that we are fortunate in the type of leadership and the caliber of personnel you have, in official capacities, elected or appointed to serve your Society. Your Legislative Committee was most effective during the last session of the Legislature. The same was true of your Council and the Members of the District Council, and we are not unmindful of the splendid work done by individual physicians in this connection.

This is mentioned by way of comment on the pleasure it gives your Department of Public Relations to work with such capable, efficient and cooperative representatives of your Society, who have shown without question a fine spirit in our work during the year.

HENRY S. JOHNSON.

Delegates to American Medical Association

The House of Delegates of the American Medical Association met at the Palmer House, Chicago, Illinois, June 21-24, 1948. Due to the multiplicity of questions to be considered and the necessity for careful deliberation, the House was in almost continuous session for four days. Presiding over the meeting for the last time was Speaker R. W. Fouts, who did not stand for re-election, ably assisted by Vice-Speaker Borzell.

Necessarily time consuming but of manifest importance was the scrutiny and final adoption of the revised Constitution and By-Laws and Code of Ethics. This revision has been in the hands of Committees for several years, and there is no doubt that the completed work reflects the opinion of most members and will prove satisfactory at least for the years just ahead.

Of interest to doctors generally was the report of the Special Committee appointed a year ago to study problems related to nursing. This report gave evidence of a large amount of work and a thorough understanding of the nursing problem throughout the country. It also manifested an effort to bring about reforms through cooperation among the various agencies involved. The Committee recommends two main classes of nurses (A) professional nurses, and (B) trained, practical nurses. Professional nurses include those specially trained as teachers or specialists in various fields, and clinical nurses who correspond to the present-day private duty graduate nurse. For the latter group, two years of training is recommended in place of three years, as is now customary. For teachers and specialists, graduate training may be necessary. The trained, practical nurse is the product of three months theoretical and nine months practical training in a hospital. If this nurse is sufficiently well qualified she may be allowed credit for her practical training and go on to graduation as a clinical nurse. It is understood that the training of all groups may be integrated where it is practical. The Committee also recommended that steps be taken to provide Social Security and retirement plans for all nurses and that the question of including nursing care in pre-payment hospital and medical plans be considered. As previously reported, a permanent Conference Committee has been formed, made up of representatives of the American Nurses Association, the American Hospital Association, and the American Medical Association. The Committee believes that this permanent Conference Committee will be the agent for implementation of these and future recommendations.

Several resolutions censuring the A.M.A. headquarters for discontinuing Blue Cross and Blue Shield coverage for employees were introduced and considered by the reference Committee on Medical Service and Pre-payment Insurance. That committee, while regretting the necessity for such a change, concluded that under the circumstances the headquarters had acted in the best interest of the A.M.A., but recommended that, at the expiration of the present contract with an insurance company, every effort be made to procure coverage for employees through local Blue Cross and Blue Shield organizations.

The much publicized New York resolution proposing to amend the Constitution of the A.M.A. so as to prohibit the exclusion of certain classes of physicians from membership in component societies was introduced in Executive Session and referred to the Reference Committee on Executive Session. That Committee's report recommended in substance that the component medical society is the sole judge as to whom it elects to membership, provided the applicant shall meet the medical requirements for membership. This report was adopted.

Resolutions touching the activities of the American Red Cross with particular reference to advertising free blood were considered at length and freely discussed. The House recommended that difference of opinion as well as policies of publicity be arbitrated at State levels by joint committees from the State Medical Societies and the American Red Cross. It is felt, however, that any provision of free medical service or supply to anyone without regard to ability to pay is in opposition to the principle that it is the responsibility of an individual to assume the obligations of medical expense just as he does for other living expense. The use of the term "free blood" in the publicity of the American Red Cross is deplored.

In January, 1948, a special committee on Intern Placements was appointed. This committee, which included, as specified at the time of its appointment, two general practitioners, reported extensive studies and several recommendations which were adopted. Among these were a more uniform plan to be followed by medical schools and approved hospitals in placing interns, and a recommendation to specialty boards that a year of rotating internship be required before beginning specialty training. This committee emphasized the educational program in the training of interns and the responsibility of the Council on Medical Education and Hospitals in seeing that this program is made a condition of approval.

At the concluding session, Dr. Ernest E. Irons, of Chicago, was elected President-elect, and Dr. R. W. Fouts, Vice-President. To fill vacancies on the Board of Trustees, Dr. Gunnar Gundersen, of Wisconsin, Dr. Edwin S. Hamilton, of Illinois, and Dr. Walter B. Martin, of Virginia, were elected. To succeed Dr. Martin on the Council on Medical Service, Dr. Henry B. Mulholland was nominated by the Board of Trustees and elected by the House.

As previously announced, the 1949 Annual Session of the Association will be held in Atlantic City, June 6-10, and the interim session in St. Louis November 30-December 3. The 1950 Annual Session will be held in San Francisco and in 1951 the Association will return to Atlantic City.

At a meeting held March 29-April 1, 1948, in Los Angeles, of representatives of the Blue Cross and A.M.C.P., a plan was proposed for merging these two organizations. This plan provided for the creation of an agency composed of representatives of the Blue Cross, Blue Shield, American Hospital Association and American Medical Association, the chief duty of which would be to supplement the work of local plans by providing coverage to national employers on a country-wide basis, without disturbing the autonomy of local plans. As considerable opposition developed to the proposal, a meeting was arranged for June 19th in Chicago, to which representatives of all societies were invited for the purpose of further consideration of the subject with the Council on Medical Service of the American Medical Association. As requested, the Medical Society of Virginia was represented by one of your delegates (H). As voluntary prepayment medical care has been developed at the State or Community level, it is not surprising that wide differences of opinion should exist as to the best method

for merging the various plans now in existence. This fact, together with a fear that a central agency would command so much authority as to threaten local autonomy, rendered any general agreement impossible. The familiar problem of central management and local autonomy is always difficult. However, the discussion which consumed most of the day, brought to light a large body of information, both to the representatives present and for the Council on Medical Service, in whose hands the matter still rests. In stressing the need for an over-all agency it was pointed out that powerful and influential national employers demand full coverage on a national, rather than a local, level, as an alternative to compulsory health insurance. How to provide this within the structure that has so far been formed is difficult, but in the opinion of those who have been in touch with the national situation, the need is urgent. One cannot fail to be impressed by the tremendous advances made throughout the country in the field of voluntary prepayment medical care in the short time since it was undertaken. While coordination on a national level is not easy, it is undoubtedly a necessary and logical development, and its accomplishment in the near future seems certain.

J. MORRISON HUTCHESON
H. B. MULHOLLAND

Publication and Program

The program which appears in the September issue of the MONTHLY is the report of the Committee. Your Committee, however, would like to take this opportunity to thank the members of the Advisory Committee appointed by the President who sat with us and helped to arrange the program.

We now mail 2,550 copies of the MONTHLY each issue. With the larger circulation and the advance in the cost of printing, there has been a considerable increase in expenditures.

WYNDHAM B. BLANTON
ALEX. F. ROBERTSON, JR.
M. P. RUCKER, *Chairman*

Scientific Exhibits

The Scientific Exhibit Committee during the past year has been attempting to make these exhibits a more important part of the meeting. To this end, an editorial was presented in the VIRGINIA MEDICAL MONTHLY, definite time allocation in the printed program for viewing exhibits was obtained, and there is a secret committee on awards appointed by the President-Elect.

The Society now owns six standard transparency viewing boxes, and more will be obtained if needed.

It is recommended that the appropriation of $750.00 be increased to $1,000.00, or as much thereof as needed.

It is further recommended that a policy be adopted of securing a commercial decorating firm to furnish and erect the exhibit equipment.

The question of adequate space is still a grave problem and attention is called to the suggestion made in the editorial that the possibility of securing armory space for future meetings be considered. Even in Richmond, there is inadequate space for scientific and commercial exhibits, and in other cities the problem is even greater. Average armory space could provide for all exhibits and usually has sufficient meeting room accommodations.

At the time of presentation of this report (July 15th) sixteen applications for exhibits have been received, and in all probability several more will be forthcoming in the next two months.

Respectfully submitted,
H. F. DORMIRE
W. AMBROSE MCGEE
VINCENT W. ARCHER, *Chairman*

Clinical and Medical Education

There have been efforts made on two occasions to have a meeting of this committee but we have been unsuccessful in having a quorum present. Different members of the committee have met in Charlottesville and in Richmond to discuss post-graduate work which is being done.

The post-graduate work done at the University of Virginia has been primarily for the resident staff of forty members, and the practicing physicians in the community of Charlottesville and all members of Albemarle Medical Society have been invited. The attendance has been good. The Medical Society of Virginia has not been called on for any appropriations to aid in this work.

At the Medical College of Virginia, post-graduate courses were given in Electrocardiography, February 9-14, 1948, the attendance 15; Symposium of Malignant Growths, March 22-27, 1948, attendance 57; Clinical Course in Electrocardiography, December 5-April 30, 1948, attendance 20; Post-graduate Course in Hematology, April 15-16, 1948; Symposium of Diagnosis, June 7-8, 1948. The Medical Society of Virginia contributed $200 to aid on expense for Symposium of Malignant Growths. We understand that the University of Virginia and Medical College of Virginia are planning other post-graduate courses, the exact date not having been determined.

We heartily recommend that if possible a Director of Post-Graduate Courses for the State should be appointed who would coordinate courses at the University of Virginia and the Medical College of Virginia, and would also arrange when proper personnel can be obtained for post-graduate courses for those who live in rural communities.

We advise continuing our appropriation of $1,200.00.

W. L. POWELL, *Chairman.*

Legislation

The work of this Committee is closely connected with the biennial sessions of the General Assembly of Virginia, and a report of its activities in a legislative year usually covers a two-year period. The Committee is not particularly active during the first year of the biennium, but during the second year it is busy in the preparation of proposed legislation, and, after the session convenes, in opposing bills which seem undesirable or even danger-

ous and in supporting and sponsoring bills and resolutions which it deems to be in the interest of the profession and the general public.

At the request of this Committee Mr. Robert C. Duval, Jr., an attorney of Richmond, Virginia, who has represented the Society for a number of years, prepared a report on "Medical Legislation in the 1948 General Assembly", which report was published in the May issue of the VIRGINIA MEDICAL MONTHLY. It included much material which would ordinarily be covered by the annual report of the Committee on Legislation, and by reason of its early publication gave the members of the Society timely information of the work of the Committee shortly after such work was completed. To repeat here the detailed information contained in that article would hardly seem necessary, but a brief summary may prove of interest.

The anticipated drive of the chiropractors and naturopaths for licenses without any real test of competency developed before the General Assembly convened, and was pressed with tremendous vigor as long as there was any hope of success. Capable and well paid legislative counsel were employed by each of these groups of sectarians and a well organized campaign for support was conducted, not only in legislative circles, but in the counties and cities of the State as well. Hundreds of letters and telegrams from their constituents deluged the members of the Senate and House, many of these bearing the usual earmarks of solicited testimonials. In opposition to this drive for licenses the Committee on Legislation enlisted the active support of the members of our profession, and sought the assistance of those who believe with us that the State of Virginia should never again permit persons to treat the sick and afflicted without some knowledge of the cause and cure of illness and disease. As you already know all bills sponsored by these practitioners were decisively defeated in committee, and their request for licenses as a gracious gift from the General Assembly was refused in no uncertain terms.

The five-year provisional licenses given these practitioners in 1944 to enable them to prepare for and take examinations given by a Special Board will protect them until December 31, 1949. However, the last examination to be offered by that Board will be in November, 1948, and if they refuse to take or fail to pass that examination they will have to pass one of the regular examinations given by the Medical Examining Board to new applicants to obtain full licenses. It seems a pity that for four years they bent all their energies toward obtaining free licenses from the General Assembly when they should have been trying to pass the elementary examinations offered by the Special Board. However, they made the choice advisedly and will of course have to accept the outcome. At the present time there is reason to believe that the chiropractors, and possibly the naturopaths, too, will take the special examination to be given in November, 1948.

But the work of your Committee was by no means confined to the problem of sectarian licenses. Prior to the convening of the Assembly in January, 1948, we met with the Executive Committee of the Medical Examining Board in Roanoke, and agreed to give legal assistance in the preparation of several bills affecting matters in which the Board was particularly interested, and to sponsor those bills before the General Assembly. As a result we now have a statute providing for the annual registration of all practitioners of the healing arts in Virginia, with requirements for the preparation and publication of lists of such practitioners, and another which regulates and limits the practice of unlicensed interns and residents in legally established hospitals. For reasons which appeared sufficient at the time, your Committee did not actively oppose the passage of a bill which reimposed State license taxes on physicians.

The plan for the proposed reorganization of the administrative framework of the State government set out in the report of the Burch Commission contained a number of proposed changes in the existing structure which in the opinion of your Committee were not only unwise but would adversely affect the activities of certain agencies whose work is of deep interest to the medical profession. Among these changes was one which would have transferred certain functions of the Medical Examining Board to a department of professional and occupational registration located in Richmond, thereby taking away some of the authority and power which the Board has long exercised. Another would have abolished the Commission on Post Mortem Examinations and transferred the operation of the Medical Examiner System, including the supervision of the duties and functions of the Chief Medical Examiner and of all local coroners, to the Superintendent of State Police. Still another would have abolished the State Hospital Board and transferred the administration of our State mental institutions and the operation of the splendid program of the Board for better medical and psychiatric treatment for mental patients to a newly created Department of Welfare and Institutions administered by a layman. All these changes were actively opposed by your Committee, and were largely eliminated from the plan of governmental reorganization which was finally adopted by the General Assembly. However, the Commission on Post Mortem Examinations was abolished as an independent State agency, and the Medical Examiner System was placed under the general supervision of the State Board of Health.

There were a number of other medical and health matters before the General Assembly which demanded time and attention from the members of the Committee who are members of the Senate and the House of Delegates. From the many bills presented there came legislation which gave us the following: a new program for the treatment of alcoholics under which about 1,200 patients can be handled annually; sanitary and health standards for hotels, tourist courts and tourist homes; standards of cleanliness for restaurants, soft drink estab-

lishments, trailer camps and service stations; increased appropriations for the care and treatment of tubercular patients and the control of tuberculosis, and for increased bed capacity at the several State sanatoria; and substantial appropriations to aid counties, cities and towns and other agencies in the construction of local hospital and health centers.

Your Committee, and particularly its Chairman, desires to express warm appreciation of the intelligent cooperation and assistance given by members of the profession throughout the State. Without such help the work of the Committee could not have been done. Mr. Henry Johnson, Director of Public Relations of the Society, not only gave unsparingly of his time and ability in the furtherance of our program before the General Assembly but placed his office staff at the disposal of the Committee for assistance in emergencies. To all who joined with us in our efforts to maintain standards of practice and improve the quality of medical services we express our gratitude.

We cannot close this report of a successful year without injecting a single note of sadness. Dr. W. Dennis Kendig of Kenbridge, Virginia, member of the Senate from the 9th Senatorial District, and a loyal and influential friend and supporter of our medical program, died suddenly at Farmville, Virginia, on March 16th, just a few days after the work of the Assembly was completed. His death will result in a distinct loss to his community and to the cause of public health and welfare throughout our State.

Respectfully submitted,

W. C. CAUDILL, *Chairman*
DEAN B. COLE
FRANK A. FARMER
JAMES R. GORMAN
G. C. TYLER
C. C. SMITH
J. D. HAGOOD
P. W. BOYD
CARRINGTON WILLIAMS

Medical Economics

The Medical Economics Committee has no report for submission at this time. There are, however, some matters under discussion which have not crystallized into shape for report.

JOHN T. T. HUNDLEY, *Chairman.*

Membership

TO THE HOUSE OF DELEGATES:

Your Membership Committee recommended that Dr. Carl I. Pirkle, who is in Government service, be made an associate member of this Society.

The following new members admitted this year have come in through membership in component societies and have required no action by this committee:

Dr. John E. Alexander, Arlington
Dr. Leon H. Alexander, Newport News
Dr. Thomas H. Alphin, Charlottesville
Dr. George C. Andes, Harrisonburg
Dr. Lewis W. Angle, Rocky Mount
Dr. Robert L. Bailey, Jr., Richmond
Dr. Asher L. Baker, Richmond
Dr. Cecil C. Bell, Kecoughtan
Dr. Robert E. Bishop, Norfolk
Dr. James B. Black, Jr., Richmond
Dr. Raymond S. Blackman, Charlottesville
Dr. Reba N. G. Bliss, Norfolk
Dr. Theodore Bliss, Norfolk
Dr. James W. Bonds, Dante
Dr. James M. Booker, Lottsburg
Dr. Herbert S. Breyfogle, Richmond
Dr. Esther Clark Brown, Salem
Dr. James Graham Brown, Richmond
Dr. Josephine J. Buchanan, Richmond
Dr. Robert C. Bunts, Richmond
Dr. Lloyd B. Burk, Jr., Arlington
Dr. James Butcher, Richmond
Dr. Daniel D. Chiles, Radford
Dr. E. M. Chitwood, Jr., Wytheville
Dr. Milton B. Coffman, Richmond
Dr. Alize Cole, Richmond
Dr. David B. Corcoran, Suffolk
Dr. Frank J. Curran, Charlottesville
Dr. Charles Fallon Davis, Jr., Roanoke
Dr. Littleton Davis, Roanoke
Dr. James L. Dellinger, Warrenton
Dr. Michael George Dewey, Hampton
Dr. Daniel L. Doherty, Jr., Roanoke
Dr. William D. Dolan, Arlington
Dr. Hubert T. Dougan, Richmond
Dr. Albert M. Edmonds, Richmond
Dr. Charles Howe Eller, Richmond
Dr. Joseph W. Eversole, Charlottesville
Dr. Nat C. Ewing, Jonesville
Dr. Mark Exley, Norfolk
Dr. Ralph S. Faris, Richmond
Dr. Henry Haskins Ferrell, Jr., Alexandria
Dr. Adam Tyree Finch, Jr., Chase City
Dr. Cecil Glen Finney, Culpeper
Dr. Darius Flinchum, Stonega
Dr. Milton Flocks, Arlington
Dr. George Lee Fosque, Onancock
Dr. John Franklin, Norfolk
Dr. Frank W. Gearing, Jr., Woodstock
Dr. Stanley Z. Goldberg, Norfolk
Dr. Eugene R. Grether, Alexandria
Dr. Paul Edmund Halter, Alexandria
Dr. Charles J. Harkrader, Jr., Abingdon
Dr. Herbert R. Hartwell, Radford
Dr. Frederick C. Heath, Blacksburg
Dr. Hollen G. Helbert, Harrisonburg
Dr. William H. Higgins, Jr., Richmond
Dr. William W. Hoback, Pulaski
Dr. Lewis W. Holladay, Richmond
Dr. William S. Hooten, Lynchburg
Dr. James E. T. Hopkins, Richmond

Dr. Julius H. Hopkins, Petersburg
Dr. Cecil G. Hupp, Mt. Jackson
Dr. Walter R. Johnson, Covington
Dr. Kasper Kaufman, Wakefield
Dr. William R. Kay, Richmond
Dr. John Kilday, Alexandria
Dr. Tom Cobb King, Jr., Charlottesville
Dr. Walter O. Klingman, Charlottesville
Dr. Robert B. Lawrence, Richmond
Dr. Joseph D. Lea, Norfolk
Dr. Walter J. Lee, Richmond
Dr. Allen E. LeHew, Clifton Forge
Dr. Arthur J. Linden, Arlington
Dr. Robert C. Livingstone, Petersburg
Dr. Albert E. Long, Alexandria
Dr. Preston B. Lowrance, Charlottesville
Dr. Howard M. McCue, Richmond
Dr. John P. Magner, Richmond
Dr. Emlyn H. Marsteller, Jr., Manassas
Dr. William H. Matthews, White Stone
Dr. M. E. Mease, Sandy Level
Dr. Unity F. Monger, Harrisonburg
Dr. Grover L. Moore, Portsmouth
Dr. Thomas J. Moran, Danville
Dr. James J. Moriarty, Alexandria
Dr. Arthur J. Mourot, Alexandria
Dr. Benedict Nagler, Richmond
Dr. Francis F. Nolan, Norfolk
Dr. Thomas P. O'Brien, Richmond
Dr. William W. Old, III, Norfolk
Dr. Harry Pariser, Norfolk
Dr. Rea Parker, Jr., Smithfield
Dr. Virgil A. Pate, Jr., Richmond
Dr. Nelson S. Payne, Norfolk
Dr. Joseph E. Pisano, Brookneal
Dr. Nelson Podolnick, Falls Church
Dr. James H. Powell, Petersburg
Dr. Michael Puzak, Arlington
Dr. Fletcher L. Raiford, Franklin
Dr. John M. Ratliff, Norfolk
Dr. Paul Rawiszer, Wise
Dr. Ernest S. Roberts, Hampton
Dr. Maurice S. Rosenberg, Waverly
Dr. Robert T. Rutherford, Jr., Alexandria
Dr. John M. G. Ryland, Richmond
Dr. Joseph M. Schoenfeld, Norfolk
Dr. Raymond Schwartz, Arlington
Dr. Thomas M. Scotti, Richmond
Dr. June Carol Shafer, Arlington
Dr. John S. Shaffer, Grundy
Dr. George A. Shawkey, Gate City
Dr. R. M. Shelton, Jr., Spotsylvania C. H.
Dr. Samuel S. Shouse, Appomattox
Dr. Arthur I. Sims, Arlington
Dr. Sigmund H. Smedal, Alexandria
Dr. Thomas E. Smith, Hayes Store
Dr. William Eidson Smith, Richmond
Dr. Charles G. Souder, Leesburg
Dr. Alden W. Squires, Norfolk
Dr. Milton R. Stein, Arlington
Dr. Theodore B. Strange, Charlottesville
Dr. Forrest M. Swisher, Arlington
Dr. Arthur H. Taylor, Brownsburg
Dr. Harry B. Taylor, Norfolk
Dr. Lloyd L. Thompson, Jr., Richlands
Dr. Vincent Totin, McKenney
Dr. Robert P. Trice, Richmond
Dr. Harry M. Wallace, Greenville
Dr. Charles H. Ward, Montross
Dr. Louis N. Waters, Dante
Dr. Otis L. Watkins, Rustburg
Dr. Clarence J. Weimer, Arlington
Dr. Betty W. Whitehead, Chatham
Dr. Cary Whitehead, Chatham
Dr. Francis R. Whitehouse, Lynchburg
Dr. William R. Whitman, Jr., Roanoke
Dr. Edwin B. J. Whitmore, Staunton
Dr. Frasier Williams, Arlington
Dr. Mark B. Williams, Toano
Dr. Alvin C. Wyman, Alexandria
Dr. Edwin S. Wysor, Clifton Forge
Dr. Eugene J. Yorkoff, Pound
Dr. Charles G. Young, Richmond

We take pleasure in recommending for Honorary Membership in the Society the retiring president, Dr. Guy R. Fisher.

Obituary notices, when available, have been published in the MONTHLY. The names of deceased members will be presented to the Society at the general meeting on the first evening.

J. BOLLING JONES
J. F. THAXTON
B. E. HARRELL, *Chairman*

Ethics

One request for opinion came to the Ethics Committee during the year. This was given and nothing further was brought to our attention.

We are distressed to report the death of Dr. R. L. Raiford, a member of this committee for several years and a distinguished member of our society for many years. Our sympathy goes to his family.

JAMES L. HAMNER, *Chairman*
K. D. GRAVES

Judicial

The Judicial Committee of the Medical Society of Virginia recommends the following changes in the by-laws:

1. On page 3, Section 1, 3rd paragraph, line 5, after the word "Virginia", insert "and physicians attached to Veterans' hospitals";

2. On page 7, Section 2, the addition previously adopted should read: "Delegates and alternates shall be *active* members of the Medical Society of Virginia".

Drs. Trout and Moncure approved these recommendations, and we find no need for further change at present.

J. MORRISON HUTCHESON, *Chairman.*

Public Relations

Your Committee on Public Relations has followed very much the same course as that of the previous year in holding regularly scheduled meetings for discussion of a program designed to meet our needs in Virginia.

The general plan has been for the Office of Public Relations to advise the Committee of an accumulation of matters needing its attention and of problems requiring determination of policy.

Even though these meetings have kept the Committee acquainted with routine matters, much thought has also been devoted to dozens of new suggestions that have come in from members of the Medical Society on matters they felt the Public Relations Office should handle. Perhaps one of the greatest problems has been that of determining respective areas of responsibility. In this connection, it would probably surprise many of us to have enumerated the various requests that certain functions and services be rendered by the Office.

At the first meeting after our State Convention last October we were, of course, primarily concerned with the wisest use of our budget and the endorsement of activities for the year. The Committee also had the responsibility of guiding our plans for our State-wide Public Relations Conference, which was participated in by approximately 75 doctors. For a half day and evening prior to this Conference, medical public relations men from the Southeastern states met in Richmond to discuss, in the presence of some of our doctors, the broader phases of their work. Our Director of Public Relations was named chairman of this group to serve for the current year. These men sat in on our State Conference the following day, and scheduled a similar meeting in one of the Southeastern states for the following year.

As to some of the specific activities of the Public Relations Department, we might refer to the six months radio program this year, instead of three months last year. Three types of materials are offered to the newspapers this year, instead of one last year. A year ago less than 50 per cent of the members of the District Council had been named. Today 100 per cent of these offices are filled, with 110 doctors serving in this capacity. This means that in every local Medical Society and every county in which there are doctors but no Society there is a member of the District Council to work with and under the direction of the Councilor in matters of public relations and other items that the Councilor deems important.

Members of the District Council Confer

After last year's State Public Relations Conference, your Committee felt that it would be advisable to take a similar discussion to more of our doctors and lay people. As a follow-up, conferences have been held this year in every Congressional District but two. Generally these were well-attended and so planned that the formal presentation would be followed by free discussion, not only of matters on the agenda but of pertinent aspects of our health and medical care program that were solicited and injected by individuals in attendance. These conferences were held, in each instance, under the general chairmanship of the Councilor for the District, and no one can tell you better than they of the value there appears to be in this type of round table. The President of the Medical Society of Virginia attended several of these. To illustrate the nature of these conferences, the scheduled agenda of one was as follows:

Meeting of Members of the District Council
Fourth Congressional District

Petersburg Hotel, Petersburg
May 26, 1948, 3:00-8:00 p.m.

1. *Call to Order*—Dr. James L. Hamner, Councilor, Fourth Congressional District, Mannboro.
2. *Welcome and Introduction of Guests*—Dr. Herbert C. Jones, Member of the District Council, Dinwiddie County and Petersburg, Petersburg.
3. *Our Suggested Program of Public Relations and Some Suggestions for Members of the Council, District Council and Local Medical Societies, as well as the Office of Public Relations, in Implementing this Program*—Mr. Henry S. Johnson, Director, Office of Public Relations, Richmond.
4. *The Hospital Construction Program in Virginia*—Mr. R. B. Almack, Director, Division of Hospital Survey and Construction, State Department of Health, Richmond.
5. *Voluntary Prepayment Medical Care and Hospitalization Plans in Virginia*—Mr. M. Haskins Coleman, Jr., Executive Director, Virginia Hospital Service, Richmond.
6. *The Washington Listening Post*—Dr. Joseph S. Lawrence, Director, Washington Office, Council on Medical Service, American Medical Association, Washington, D. C.
7. *Summary*—Dr. Hamner.
8. *Guest Dinner Speaker*—Dr. Guy R. Fisher, President, Medical Society of Virginia, Staunton.

Discussions in these conferences were not limited to the objectives of the Public Relations Department or to the activities engaged in by the State Society, but also covered such things as suggested public relations activities that local Medical Societies might engage in and specific things that might be done by members of the Council and of the District Council. In this connection, a Kit of Materials was provided for each member of the District Council, for the purpose of indicating data, literature, reference material and actual speeches that might be used by doctors and others in appearances before the public.

Perhaps one of the heaviest burdens of the year has been that of endeavoring to set up the Veterans Medical Care Program. Even though our program is so designed that the individual doctor will deal directly with the

Veterans Administration, the fees, the applications of doctors, the working relationship with the VA and the instructions to doctors have all been matters of concern to us. We are hopeful that our efforts will not have been in vain.

At present there are three separate committees to administer this program—the Fee Schedule Committee, the Committee on Applications and the Veterans Affairs Committee (sometimes termed the Review Board). We wish to express our gratitude to the members of these committees for their fine spirit of cooperation.

A public relations exhibit shown at the last State Convention was later displayed at the Southern Regional Conference at New Orleans and, upon request from the AMA, was taken to Chicago for another meeting.

In response to another request from the AMA, an exhibit was prepared on the Virginia Council on Health and Medical Care for the AMA Convention in Chicago in June. This exhibit, incidentally, occupied the front panel of a number of states and was the subject of some most favorable comments.

Your Committee feels that an improvement should be made in the provisions for a working relationship between the press and our Society at Convention time. Therefore, with the consent of the President and members of the Council, we have arranged for the use of a press room for our 1948 Convention, with the hope of a satisfactory solution.

Your Committee was greatly concerned over the possibility of legislation adverse to the best interests of the medical care of our people during the last General Assembly, and instructed the Department of Public Relations to assist the Legislative Committee in any manner it might wish. This assistance was not only strenuous, but required considerable on-the-spot correspondence. The Committee feels that in addition to the legal advantages gained during that session, that our relationship with members of that august body is decidedly improved. It is the understanding of the Committee that much of this has been brought about by initiative on the part of local Medical Societies, and the Committee is fully aware of the splendid work done before, during and since the Legislature by individual doctors in helping members of the General Assembly gain a better understanding of our point of view.

The duties and functions of the Office of Public Relations during the past year increased to the point that it became necessary to employ a young man, who is a college graduate with experience on the Associated Press and as a correspondent in the Army. His work has been to assist with correspondence, collect data, prepare materials and, more specifically, to work with the radio and press. No further increase in personnel in the Office is anticipated in the near future.

The Committee is very cognizant of the personal understanding, great leadership and active support of the President of the Medical Society of Virginia during the past year. It is also appreciative of the place given public relations in the deliberations of the Council, and it wishes to acknowledge with gratitude the splendid cooperation of other officials and office personnel in the Society. Mention should also be made of the fine work done by the five members of the Board of Editors, who have diligently checked on the scientific accuracy of all press and radio materials.

J. M. EMMETT, *Chairman*
H. B. MULHOLLAND
L. J. ROPER

Rural Health

The Rural Health Committee as a whole has not had a meeting this year. However, the chairman has been active, both nationally and in the state, in talking to various interested groups with reference to the extension of medical care to rural areas.

On July 28th in Blacksburg, Virginia, the chairman called a meeting of the Rural Health Committee to be held in conjunction with the annual Institute on Rural Affairs. The chairman talked to between four and five hundred farm people with reference to what has been done and what can be done to carry good medical care into rural areas. In the afternoon, a roundtable discussion was held with various farm leaders and this was attended by the Director of the Public Relations Committee of the Medical Society, the Ninth District Councilor and several doctors from that area, who entered into a lively discussion on prepayment insurance as it affects rural areas, the need for doctors and, the formation of health councils as a method of holding forums or discussing the problems and implementing these discussions. The farm people were quite impressed by the interest shown by the medical profession. These meetings are of great value.

It is urged that wherever possible local medical societies form rural health committees or initiate the formation of local health councils and bring all interested individuals into active participation of community health programs.

H. B. MULHOLLAND, *Chairman*
E. C. JAMISON
W. R. PRETLOW
L. J. ROPER

Maternal Health

The Maternal Health Committee met at the Academy of Medicine, Richmond, December 18, 1947. Those present were: Dr. C. J. Andrews, Chairman; Dr. M. P. Rucker, Dr. G. C. Campbell, Dr. A. L. Carson, Jr., Dr. G. N. Carter, Dr. A. M. Groseclose, Dr. J. M. Nokes, and Dr. L. L. Shamburger. The State Health Commissioner, Dr. L. J. Roper, attended as a visitor.

A report was made of the work done in the 140 Maternal and Child Health Clinics. The number of births in the State, the maternal death rate and the principal causes of maternal deaths were reported.

It was reported by the secretary that, because of lack of funds, the MCH Hospitalization for patients from in-

dependent cities was discontinued as of December 17th. This, however, is not a serious loss as these independent cities should be and are able to take care of dependent patients.

The subject of a survey of maternal deaths was discussed at length. It was finally concluded that at this time the personnel is not available for the personal visits to the various communities in the state to obtain the data relative to the deaths as was done previously. The only method available at this time seemed to be a questionnaire by mail and the delinquents followed up by Health Officers. It was suggested that internes might be employed for this purpose with the possibility of having Board credit for the time spent in this way. Dr. Rucker was appointed by the Chairman as a committee of one to write to Dr. Titus in regard to the subject of credit on the American Board of Obstetrics and Gynecology for time spent on such a survey. A motion was made by Dr. Nokes that the method used be decided by a committee composed of Drs. Rucker, Carson, and Shamburger. This was adopted, and the plan has already been put in operation.

For a long time there has been discussed the possibility of having a uniform method of reporting infant viability in all the states. Dr. Rucker stated that Dr. Evans from the U. S. Bureau of the Census had appeared before the Richmond Obstetrical and Gynecological Society with a report that very little had been done in bringing about any such uniformity.

The Rh factor was discussed with the hope that something could be done in order to make the laboratory work generally available to the physicians of the State. Dr. Roper stated that after a survey of the state laboratory could be made, more definite information would be available. At the present time, the state laboratory is not prepared to do the work.

This Committee is very appreciative of the cooperative help which Dr. Roper has given to them.

A report from the sub-committee on maternal death surveys as of this date states: "The response to the letters in regard to maternal deaths has been very good. The letters on January deaths were mailed April 21, and a second letter to those who failed to answer the first was mailed May 12. There have been fifteen replies for sixteen deaths. The February letters were written May 13. There have been ten replies for thirteen deaths. A second letter has not gone out for the three delinquent cases. It looks as though the response may reach in the neighborhood of 100 per cent. The details of handling these reports will be further considered by the Committee. It can be stated that the prospect of this plan being helpful, at least as a temporary expedient, is good. When sufficient number of these are in hand the Committee will meet and study them as has previously been done.

It is very gratifying to report that the maternal death rate in Virginia in 1946, the last one completed, is 1.8 per cent per thousand live births, while in 1931 it was 7.6 per cent. It is obvious that definite effort will have to be exercised to maintain this record. However, it is too high, and continued effort should be made as long as there are any unavoidable deaths. Sepsis, toxemia and hemorrhage have continued to be the principal causes of death, sepsis giving 38 cases, toxemia 36, and hemorrhage 23 in 1946. In 1936, 297 maternal deaths occurred; in 1946 only 129, although there was an increase of births during this time of 20,664. Had the 1936 rate prevailed in 1946 maternal deaths would have been 417. There were actually 129. It is obvious that during that year 288 deaths had been eliminated by the various methods used to this end.

Included is a statistics tabulation of the use of the various facilities of the maternal and health clinic services.

SUMMARY OF MATERNAL AND CHILD HEALTH CLINIC SERVICES

JULY 1, 1946—JUNE 30, 1947

	No. In Operation
Prenatal clinics	99
Well-Baby clinics	41
TOTAL	140
ADMISSIONS TO CLINICS:	
Prenatal patients	7,291
Postnatal patients	4,075
Well-Baby patients	9,722
Preschool patients	18,307
TOTAL	39,395
CLINIC VISITS:	
Prenatal cases	31,618
Postnatal cases	4,075
Well-Baby cases	29,167
Preschool cases	36,615
TOTAL	101,475
Local physicians serving as clinicians	256
PERCENTAGE CLINIC ATTENDANCE BY RACE:	
White	36.7
Colored	63.3
PERCENTAGE OF CLINIC ATTENDANCE BY SERVICE:	
Prenatal cases	31.2
Postnatal cases	14.0
Well-Baby cases	28.7
Preschool cases	36.1
PATIENTS HOSPITALIZED UNDER MCH PLAN:	
Obstetric	920
Pediatric	446
TOTAL	1,366

C. J. ANDREWS, *Chairman.*

Child Welfare

The Child Welfare Committee of the Medical Society of Virginia has not formally met this year. The chairman conferred with Dr. Carson, Director of Bureau of Child Health for the State, to determine if there were any matters of importance with which the committee could help. At that time nothing was imminent.

The study conducted by the American Academy of Pediatrics is now nearing the stage of publication. We trust that within the next few months excerpts of this may be published in the VIRGINIA MEDICAL MONTHLY.

Respectfully submitted,

J. M. BISHOP, Roanoke
W. T. GRAHAM, Richmond
R. B. HIGHTOWER, Alexandria
MARY E. JOHNSTON, Tazewell
F. N. MULLEN, Norfolk
W. W. WADDELL, Charlottesville
J. B. STONE, Richmond
EMILY GARDNER, Richmond
Chairman

Tuberculosis

Our Health Commissioner is preparing to launch a rather elaborate tuberculosis control program. Last fall he employed Dr. William F. Wagner as full-time director of the Bureau of Tuberculosis Control. The General Assembly appropriated $7,500,000, in order to modernize our three existing State Sanatoria and to increase the bed capacity of Catawba and Blue Ridge to 500 beds each and Piedmont to 320, and to build a new sanatorium for colored people with a 300-bed capacity. When this building program is completed, we should have sufficient sanatoria beds to take care of all tuberculous patients in the state that might apply for treatment and keep them on the cure until they are no longer a menace to public health.

The policy relating to diabetics with tuberculosis has also been changed. Our Health Commissioner announced, beginning with November 1, 1947, all three State Sanatoria would admit diabetics with tuberculosis and would treat them accordingly.

A recent letter from Dr. L. J. Roper explains the remainder of this expansive program better than the committee can express it. We quote:

"Our Planned Tuberculosis Control program this year will place emphasis upon:

"1. Proceeding with alteration and expansion of facilities for care of bedfast patients in the three existing State Sanatoria, as authorized and budgeted by the General Assembly in recent session.

"Plans have already been drawn and approved for these projects at Blue Ridge and Piedmont. Bids will be requested within the next month or two; commencement of actual construction is anticipated for the coming fall, with buildings ready for occupancy within approximately twelve months later.

"Architects and contractors have been selected for work at Catawba and preliminary drawings have been submitted to the Sanatorium Committee of the State Health Department and delegates from the State Board of Health. It is anticipated that plans will be completed and construction commenced at Catawba by mid-winter.

"Purchase of streptomycin by the State Health Department to be distributed to State Sanatoria, as authorized and budgeted by the General Assembly, will begin July 1, 1948. $25,000 is available annually for this purpose. Streptomycin will be administered to State patients strictly in accordance to protocol which conforms closely to prevailing practices and recommendations of recognized national authorities and which has been approved by the State Board of Health.

"New contracts with Municipal Sanatoria for care of non-resident or out-of-town State patients will provide an anticipated 100 beds for patients of this type who will be unable to obtain admission to State Sanatoria pending completion of their expansion program. This will have been made possible or at least materially expedited through increased appropriation by the General Assembly for this purpose from $82,000 to $187,000 per annum, enabling the State to more closely approximate the per diem cost of tuberculous patients in Municipal Sanatoria. Applications of out-of-town tuberculous patients for admission to Municipal Sanatoria will henceforth be routed through the newly-created Bureau of Tuberculosis Control.

"Administration by the Bureau of Tuberculosis Control will continue on funds allocated to the State Health Department for the conducting of 50 pneumothorax refill stations throughout the State and for providing hospitalization in general hospitals for tuberculous patients requiring major surgery. Annual sums available for these services are $45,000 and $30,000, respectively.

"Three mobile chest clinics will continue to operate as before.

"2. Case Finding Programs.

"Seventy MM surveys will continue to be conducted throughout the State in industry and communities at large with gradual expansion, through complete activation of equipment now on hand, to include mass x-ray survey of the entire adult population of Virginia (2,500,000 persons above 15 years of age) within the next few years.

"This will require preliminary indoctrination or 'orientation' of all Public Health Workers, official and voluntary, professional and lay, by means of seminars to be conducted by the Director and his assistants in all sections of the State. The success of this program in turn depends upon the preparation of suitable written material on tuberculosis by the Director.

"Also, through local medical societies and the state medical association, private physicians must be acquainted with the Tuberculosis Control Program so that not only their support but their enthusiastic and effective *personal* participation in the program may be assured. This includes utilization of standard diagnostic studies for completion of diagnoses, proper follow-up of confirmed cases, as well as more prompt reporting of cases of tuberculosis. This will require many personal appearances before med-

ical doctors upon the part of the Director and his assistant.

"Arrangements must be made by the Director for refresher courses on tuberculosis to be made available in Virginia universities for private physicians.

"Standardization of terms to be used in reading and reporting x-ray films must be established by the Director to guide those reading films and the significance of these terms must be conveyed to those receiving reports.

"The Nurse's Manual for Tuberculosis must be completely revised to conform to the new indoctrination program and file procedures altered accordingly. These practical changes in procedure will first await indoctrination of workers in the field in the 'new look' on tuberculosis.

"The Central Registry must be revised to make it more valuable as a source of information on the actual tuberculosis situation in Virginia at any given time as an aid in direction control efforts and evaluating same.

"Much of the material now available for publicity purposes in connection with promotion and public health education in tuberculosis (to be used with mass x-ray surveys) being inadequate for the purpose, suitable material for each of these aspects of the case finding program must be prepared by the Director.

"By the end of next year, it is hoped money conditionally appropriated by the General Assembly will be made available by the Governor to proceed with construction of the new 300-bed Negro hospital."

As a final word the Committee feels this report should contain some information on the present status of BCG vaccine (Bacillus Calmette-Guerin) in tuberculosis.

For more than twenty years this vaccine has been used in various parts of the world, particularly in Europe with reports of varying results. Feeling that the vaccine probably had not had as complete study as it should have, the Tuberculosis Control Division of the United States Public Health Service decided to go into this subject thoroughly and determine whether or not it should be approved and used. In September, 1946, and again in the fall of 1947, the Tuberculosis Control Division of the U. S. P. H. S. called a meeting in Washington consisting of distinguished men of science and outstanding leaders in tuberculosis from the United States, China and Denmark. This distinguished group of men, at the two conferences, went into this important subject thoroughly, and they finally reached some conclusions which they felt justified the following recommendations:

1. BCG vaccine should not be made commercially available at present.

2. From studies presented at the conference, it appears that BCG vaccination confers increased resistance to tuberculosis for the limited period covered in these studies.

3. Medical literature fails to reveal any proved cases of progressive disease as a result of BCG vaccination.

4. BCG vaccination can be done without causing severe local reaction.

5. The intracutaneous method of vaccination is recommended for use at present.

6. In the studies presented, BCG vaccination converted a large percentage of nonreactors (to the tuberculin test) into reactors.

7. Need for revaccination and the time interval between vaccination require further study.

8. It was recommended that a single laboratory be established by the Tuberculosis Control Division to produce BCG vaccine for the entire United States for use in research programs proposed at the conference.

9. Extensive investigations should be carried on cooperatively with recognized research groups throughout the nation, especially in population groups highly exposed to tuberculous infection.

10. It was recommended that the Tuberculosis Control Division set up a controlled study in a community with a population of 100,000 or more, to determine immediate and long-range results.

11. Further research is strongly recommended to determine the efficiency of the vaccination and also to attempt to develop a vaccine composed of dead bacilli. It was recommended that methods be developed to standardize techniques of preparation of a potent and stable vaccine for use in the United States, and, if possible, throughout the world.

The U. S. P. H. Service, since these meetings, has decided on a community of 100,000 population in Georgia for the site to carry out these clinical experimental studies with the vaccine. Certainly in due time they should have something very concrete to report. Until such time as they recommend its general use, we feel that the profession in general should not consider its use to any great extent. The reports that have been occurring from time to time in the literature in the country where this work has been more generally done, would indicate that there is some real value, and if this is confirmed by our own investigative workers, namely, U. S. P. H. S., then we can feel more optimistic about recommending its use.

We feel that the time has come when BCG should be made available to the institutions in our State that are prepared to administer it scientifically.

Respectfully submitted,

C. L. HARRELL, *Chairman*
FRANK B. STAFFORD
J. B. NICHOLLS
CHARLES W. SCOTT

Mental Hygiene

The Department of Mental Hygiene and Hospitals now has in operation twelve clinics. These are situated at Alexandria, Arlington, Charlotte Court House, University, Falls Church, Newport News, Lynchburg, Medical College of Virginia, Memorial Guidance Clinic at Richmond, Norfolk, Portsmouth, and Roanoke. If personnel can be secured five more clinics are contemplated this year. Seventeen hundred and sixty-six new patients were seen in the state clinics up to and including April 30th and probably 700 additional will be seen up to June 30th. This we believe demonstrates the value of these clinics.

The personnel situation of the state hospitals is still

critical. Two additional doctors have been secured this year. Nurses and attendants have improved but very little. Training programs for attendants have continued at the Eastern, Central and Western State Hospitals. This course is of six months duration and all new attendants are required to have this training.

The building program of the Eastern State Hospital at Dunbar is well under way. Five doctors' residences have almost been completed. Two 100-bed employee's buildings and one 100-bed patient's building are under construction and at this time are probably half finished. A new power plant, sewerage disposal system and water distribution system will be started during this biennium. Funds are available for four additional patient's buildings of 100 beds each and a laundry building. These will be started as soon as plans are completed. At the Western State Hospital plans for a 100-bed employee's building are under way and almost ready for bids. At the Central State Hospital plans are practically complete and funds are available for a new criminal building which is badly needed. At the Lynchburg State Colony plans are almost complete for a sewerage disposal system, two buildings for mental defectives and one building of 100 beds for employees. At the Southwestern State Hospital plans for a new laundry building have almost been completed. A new kitchen, dining-room and cold storage plant are being planned for the DeJarnette Sanatorium.

In April a two weeks Psychiatric Seminar was conducted in Richmond under the auspices of the Department of Mental Hygiene and Hospitals which was endorsed by the State Medical Society. The cost of the seminar which was approximately $8,000 was furnished by the United States Public Health Service. The attendance for the two weeks was between 500 and 600, 200 of whom were general practitioners. If finances can be arranged this seminar will be repeated next year.

There seems to be a growing interest in mental health among general practitioners as well as the lay public. This has been brought about we think largely by the attitude of the medical profession toward mental illness.

JOSEPH E. BARRETT
R. FINLEY GAYLE
JAMES P. KING
DAVID C. WILSON
JAMES B. PETTIS
FRANK H. REDWOOD, *Chairman*

Medical Examiner System

Your Society's Committee on Medical Examiner System was discharged last year because in the passage of the Medical Examiner's bill by the last Assembly, its work was completed.

The Governor's plan to streamline his organization by combining and consolidating a number of independent departments created a crisis which your President met by reactivating the Committee.

The Governor's plan contemplated abolishing the Commission on Post Mortem Examiners and placing the office of the Chief Medical Examiner and the Coroners under the Superintendent of State Police. A number of hurried conferences (necessitated by the shortness of time allowed us) resulted in a decision to fight to have the Department of Post Mortem Examiners and Coroners placed in the Department of Health headed up by a physician who as a member and chairman of the Commission on Post Mortem Examiners was familiar with the situation. It was also felt that the Board of Health would prove a good substitute for the abolished Commission on Post Mortem Examiners.

Your Committee is pleased to report that its efforts were successful and that the Department is now functioning well and to the satisfaction of all concerned under Dr. L. J. Roper and his Board of Health.

WYNDHAM B. BLANTON, *Chairman.*

To Confer with State Board of Nurse Examiners

I will have no report of the Committee to Confer with State Board of Nurse Examiners as I have had no meeting.

I. A. BIGGER, *Chairman.*

Cancer

During the past year, the Cancer Committee has continued to serve as liaison for the Virginia Division of the American Cancer Society, the Division of Cancer Control of the State Health Department, and the Medical Society of Virginia.

It advised Dr. Mason Romaine, Chief of the Division of Cancer Control, in the formulation of policy for the new bureau. It helped him and the Virginia Pathological Society work out the details of the free tissue diagnostic service now offered by the Division of Cancer Control.

It has reviewed, criticized, and filed case reports from the Tumor Clinics which it has certificated.

It has published a series of cancer bulletins in the VIRGINIA MEDICAL MONTHLY.

It prepared a booklet listing the names of Virginia physicians qualified to lecture on various phases of cancer and willing to make themselves available for the scientific programs of the component societies of the Medical Society of Virginia. The booklet has been mailed to each of the component societies, and it is hoped that it will be helpful in planning programs.

Respectfully submitted,

GEORGE COOPER, JR., *Chairman*
I. A. BIGGER
C. W. ELEY
A. B. GATHRIGHT
E. P. LEHMAN
WILLIAM H. PARKER
MASON ROMAINE
L. J. ROPER
HERBERT WOLFF
GEO. Z. WILLIAMS

Nutrition

All members of the Nutrition Committee were contacted to see if anything of importance should be brought up or acted upon by your Committee. The only thing

of importance in regard to nutrition was that all the members of the Committee felt the Medical Society should go on record as opposing the tax that is now on oleomargarine. This was the only action taken and it was the unanimous opinion of the Committee.

McLEMORE BIRDSONG, *Chairman*
GEO. H. CARR, JR.
EDWIN A. HARPER
A. B. HODGES
ERNEST G. SCOTT
C. C. POWEL

Rehabilitation

The first meeting of the Rehabilitation Committee was held on December 7, 1947, at the Woodrow Wilson Rehabilitation Center, Fishersville, Virginia. Dr. Roy M. Hoover was re-elected chairman and Dr. George A. Duncan, secretary. The chairman was authorized to name an executive committee. The Committee made a tour of the facilities available at the Woodrow Wilson Rehabilitation Center. These facilities consist of: (1) A guidance laboratory where new and effective procedures can be used to help handicapped persons discover their abilities and choose the right type of job. (2) Physical reconditioning and retraining in a modern physical medicine department. (3) Vocational training under conditions especially favorable to handicapped persons, and (4) Employment and training to a limited extent at the Center for selected handicapped persons.

After the tour there was a discussion of a suitable means of acquainting the physicians in the State with facilities which are available for providing vocational training for physically handicapped persons and also the opportunities of providing treatment in the field of physical medicine. The Committee agreed that articles for the VIRGINIA MEDICAL MONTHLY were appropriate and that invitations extended to groups of doctors to visit or hold meetings at the Rehabilitation Center were appropriate. Through its chairman the Committee extended an invitation to the orthopedists in the State to visit the Center at the time of the second meeting of the Committee and also to extend through Dr. Guy R. Fisher, President, Medical Society of Virginia, an invitation to the Valley Medical Association to hold its annual meeting at the Rehabilitation Center.

The second meeting of the Committee was attended by nine of the orthopedists in the State and also by the Director of the Crippled Children's Bureau of the State Board of Health. After this group of doctors had visited various departments they were given an opportunity to suggest methods for further utilizing these facilities.

One adjustment was recommended by the Committee which was felt should be incorporated in the fee schedule used by the Division of Rehabilitation.

Throughout the past year each member of the Committee has been called on by representatives of the Division of Rehabilitation for advice in order to determine the suitability of specific physical restoration services for clients of the Division.

At the April 25 meeting the Executive Committee was named consisting of Dr. L. J. Roper, Dr. Frank B. Stafford, and Dr. Leroy Smith along with the chairman and the secretary. At the time which this report is prepared it is expected that a third meeting of the Rehabilitation Committee will be held in Richmond during the month of September.

The accompanying table gives a picture of the services in the field of physical restoration which have been provided by the Division of Rehabilitation and covers the fiscal year beginning July 1, 1947, and ending June 30, 1948.

PHYSICAL RESTORATION SERVICES
July 1, 1947, to June 30, 1948

	No. Clients	*Costs*
Dental treatment	13	$ 1,426.00
Hospitalization	314	40,806.23
Medical treatment	45	280.14
Physical and Occupational Therapy	61	7,708.75
Psychiatric examination (diagnostic study)	12	1,420.07
Psychiatric treatment	1	268.24
Surgery	276	16,392.00
Total cost for services		$68,307.43
Clients Rehabilitated in suitable work on wages	211	
Clients Rehabilitated as farmers or housekeepers (No wages from specific employer)	67	
Aggregate annual earnings of clients		$298,650.00

ROY M. HOOVER, *Chairman*
GEORGE A. DUNCAN, *Secretary*
J. R. BLALOCK
PAUL D. CAMP
W. E. DICKERSON
G. S. FITZ-HUGH
N. F. RODMAN
L. J. ROPER
G. B. SETZLER
LEROY SMITH
FRANK B. STAFFORD
F. J. WRIGHT

Conservation of Hearing

The Committee met in Winchester, Virginia, May 7, 1948, at the time of the annual meeting of the Virginia Society of Ophthalmology and Otolaryngology. On May 8th, Dr. Stuart Nash of Rochester, New York, an authority on deafness, addressed the Society on "Hearing of the Various Age Groups". At the final meeting of the committee the various aspects of the problems of deafness and its allied problems were discussed at length.

The use of modern therapeutic drugs has appreciably helped decrease the incidence of surgical mastoiditis and resultant deafness. However, there are many instances where the *early recognition of incipient deafness,* adequate surgical intervention and the use of radium to the tissues of the nasopharynx might further reduce the de-

gree of hearing *loss*.

The findings of the hearing survey made by Mr. J. M. Mullendore of the University of Virginia, and legislation pertaining to the hard of hearing school child were among the topics discussed.

The committee realizes that the problem of conservation of hearing is one of tremendous magnitude. It was generally felt that a worthwhile long range program would require the establishment of clinics at strategic points in the state with specially trained personnel (which at the present are not available) working in close cooperation with the regional otologists, family physician and social service bureaus.

The problem of conservation of hearing being a continuous one, the matter of acquainting and inviting the cooperation of laymen, school teachers, physicians and specialists in a comprehensive program relative to the problems of the deaf was considered worthwhile and recommended.

P. N. PASTORE, *Chairman*
FLETCHER WOODWARD
H. GRANT PRESTON
B. R. KENNON
MORTIMER WILLIAMS
T. M. WINN

Industrial Health

Nothing has been brought to attention of the Committee so that is no report at this time.

H. U. STEPHENSON, *Chairman.*

Venereal Disease Control

The Venereal Disease Committee of the Medical Society of Virginia met on Friday, the 28th of May, in the Board Room of the Richmond Academy of Medicine. The following members were present:

Dr. W. W. S. Butler, Roanoke.
Dr. Richard W. Fowlkes, Richmond.
Dr. Raymond Kimbrough, Richmond.
Dr. L. J. Roper, Richmond.
Dr. E. M. Holmes, Jr., Richmond.
Dr. J. W. Love, Alexandria.

The agenda for the meeting was as follows:

1. Status of ambulant penicillin, oil and beeswax treatment of syphilis for urban areas.
2. Free penicillin, oil and beeswax for private physicians upon receipt of case reports.
3. Federal research grants to Virginia institutions.
4. Status of State Venereal Disease Control Program.
5. Should the State provide Procaine Penicillin for Clinic G. C.?

1. The status of ambulant treatment of syphilis for urban areas was discussed. It was agreed that ambulant therapy in urban areas has many advantages, and the committee requested Dr. L. J. Roper, State Health Commissioner, to consider the possibility of extending this program to all cities in the State.

2. The subject of free distribution of penicillin, oil and beeswax for private physicians upon receipt of case report was discussed. Dr. Roper stated that while he would like very much to include this in the State program there were not sufficient funds in the budget of the department of health to permit this item.

3. Status of Federal Research grants to Virginia—Dr. Roper stated that he would consider favorably and forward to United States Public Health Service request for Federal funds for research work in the field of venereal disease. At the present time the University of Virginia is participating in a study financed by the Federal Government, and the clinics of Richmond, Alexandria and Arlington are functioning under a Federal project to evaluate case holding in the ambulant treatment of early syphilis.

In discussing the States venereal disease program, Dr. Roper said that the Health Department had been handicapped by not being able to obtain a Director for the division of venereal disease control, and that he hoped that this position would be filled in the near future. The State is taking over Hampton Roads Medical Center, and will operate it after July 1, 1948. This center was one of the few in the United States that was completely operated by the Federal Government. Under the new arrangement the institution will be financed on the following basis: Federal Funds 70 per cent, State Funds 30 per cent.

The bed capacity of the institution will be reduced to 100 beds. An announcement of these changes in policy will be mailed to all physicians in the State.

In discussing the subject of transportation of patients to the Rapid Treatment Center, the committee on motion of Dr. Holmes and Dr. Fowlkes passed the following recommendation:

"The committee recommends that it be encumbent upon local governmental authorities to pay the transportation cost of indigent patients to the Rapid Treatment Center."

It was further recommended that the Committee request the House of Delegates of the State Medical Society to request the State Department of Welfare to permit the use of State and local hospital funds to provide hospitalization for complicated syphilis.

E. M. HOLMES, JR., *Secretary.*

Walter Reed Commission

The Commission reports Belroi, birthplace of Walter Reed, in good condition. The grass has been kept cut and necessary repairs made.

We recommend that an appropriation of $75.00, or as much thereof as needed, be included in the budget for continuance of the insurance and any repairs which may be needed.

J. D. CLEMENTS
JAMES W. SMITH
CLARENCE PORTER JONES
Chairman

Advisory to Woman's Auxiliary

The Auxiliary has been very active and the chairman has discussed these activities with the President from time to time.

S. K. AMES, *Chairman.*

DELEGATES TO 1948 MEETING MEDICAL SOCIETY OF VIRGINIA

Names of Delegates and Alternates to the Richmond meeting of the Society are given below. Societies which are not included are asked to send names to the Secretary before October 17—date for first meeting of the House of Delegates.

Delegate	*Alternate*
Accomac	
Dr. J. L. DeCormis	Dr. J. Fred Edmonds
Albemarle	
Dr. Percy Harris	Dr. George Cooper, Jr.
Dr. Frank Daniel	Dr. Roy Mason
Dr. H. B. Mulholland	Dr. McLemore Birdsong
Dr. E. P. Lehman	Dr. Arthur M. Smith
Alexandria	
Dr. James W. Love	Dr. S. H. Williams
Dr. John Sims	Dr. Charles V. Amole
Alleghany-Bath	
Dr. J. M. Emmett	Dr. R. L. Claterbaugh
Dr. S. P. Hileman	Dr. M. B. Jarman
Arlington	
Dr. W. C. Welburn	Dr. W. P. Hammer
Dr. J. E. Payne	Dr. Leo Solet
Dr. George J. Stuart	Dr. J. B. Leary
	Dr. William D. Dolan
Augusta	
Dr. Glenn C. Campbell	
Dr. Charles L. Savage	
Bedford	
Dr. C. R. Titus	Dr. J. G. Jantz
Buchanan-Dickenson	
Dr. J. P. Sutherland	Dr. J. C. Moore
Dr. T. C. Sutherland	Dr. Harold Keene
Charlotte	
Dr. S. S. Shouse	Dr. Stuart Wilson Tuggle
Culpeper	
Dr. J. B. Jones	Dr. John Snead
Danville-Pittsylvania	
Dr. L. R. Broome	Dr. H. R. Bourne
Dr. G. V. Thompson	Dr. H. H. Hammer
Fairfax	
Dr. E. Newman	Dr. Wm. Meyer
Fauquier	
Dr. Wm. R. Pretlow	Dr. M. B. Hiden

Delegate	*Alternate*
Fourth District and Southside Virginia	
Dr. J. T. O'Neal	Dr. H. C. Rucker
Dr. C. G. O'Brien	
Dr. T. H. Anderson	Dr. W. C. Harman
Dr. Meade Edmunds	Dr. Thomas B. Pope
Dr. C. E. Martin	Dr. J. B. Kiser
Dr. H. E. Whaley	Dr. K. S. Freeman
Dr. W. J. Ozlin	Dr. H. H. Braxton
Dr. J. A. B. Lowry	Dr. J. M. Hurt
Dr. Ray A. Moore	Dr. John G. Graziani
Dr. Lee S. Barksdale	Dr. A. T. Brickhouse
Dr. F. E. Steere	Dr. B. H. Knight
Dr. Maurice Rosenberg	Dr. F. J. Clements
Fredericksburg	
Dr. C. A. Nunnally	Dr. D. W. Scott, Jr.
Dr. R. M. Shelton	
Dr. Geo. A. Reynolds	
Dr. L. F. Lee	
Hanover	
Dr. John D. Hamner, Jr.	Dr. A. C. Ray, Jr.
James River	
Dr. L. W. Hulley	Dr. Russell Snead
Dr. E. B. Nuckols	Dr. Nash P. Snead
Dr. W. A. Pennington	Dr. E. J. Haden
Lee	
Dr. G. B. Setzler	Dr. L. R. Littleton, Jr.
Loudoun	
Dr. W. O. Bailey	Dr. George H. Musgrave
Louisa	
Dr. H. S. Daniel	Dr. H. W. Judd
Lynchburg Academy	
Dr. H. H. Hurt	Dr. P. G. Dillard
Dr. J. T. T. Hundley	Dr. S. P. Oglesby
Mid-Tidewater	
Dr. M. H. Harris	
Dr. J. M. Gouldin	
Dr. A. L. VanName	
Dr. H. A. Tabb	
Dr. R. B. Bowles	
Dr. R. D. Bates	
Dr. Clarence Campbell	
Dr. J. R. Parker	
Nansemond	
Dr. E. C. Joyner	Dr. W. H. Chapman
Nelson	
Dr. B. F. Randolph	Dr. E. C. Kidd

Norfolk

Delegate	*Alternate*
Dr. H. W. Rogers	Dr. J. C. Crawford
Dr. Frank P. Smart	Dr. M. S. Fitchett
Dr. Walter P. Adams	Dr. W. B. Martin
Dr. J. Franklin Waddill	Dr. M. S. Andrews
Dr. B. L. Parrish	Dr. T. N. Spessard
Dr. George A. Duncan	Dr. R. B. Grinnan
Dr. K. W. Howard	Dr. R. M. Cox

Northampton

Dr. W. J. Sturgis, Jr.	Dr. H. L. Denoon

Northern Neck

Dr. Paul C. Pearson	Dr. H. E. Sisson
Dr. Mercer M. Neale, Jr.	Dr. C. Leonard Booker
Dr. Charles Y. Griffith	Dr. Harper C. Ward
Dr. Melvin Lamberth	Dr. Lee S. Liggan

Northern Virginia

Dr. C. O. Dearmont	Dr. Frank Tappan
Dr. C. L. Riley	Dr. P. T. Grove
Dr. Harold Miller	Dr. L. K. Woodward
Dr. M. J. W. White	Dr. C. L. Trott
Dr. D. M. Kipps	Dr. E. L. Grubbs
Dr. John P. Snead	Dr. James G. Brown

Orange

Dr. C. Camerson Kress	Dr. J. Garnett Bruce

Patrick-Henry

Dr. Henkel M. Price	Dr. J. T. Shelburne
Dr. L. A. Faudree	Dr. W. N. Thompson

Princess Anne

Dr. Ira L. Hancock	Dr. H. F. Dormire

Richmond Academy

Dr. J. Morrison Hutcheson	Dr. Donald S. Daniel
Dr. Frank Pole	Dr. Richard Michaux
Dr. John R. Massie	Dr. W. T. Thompson, Jr.
Dr. T. B. Washington	
Dr. E. E. Haddock	Dr. Fred P. Fletcher
Dr. Douglas G. Chapman	Dr. John R. Saunders
Dr. Harry J. Warthen, Jr.	Dr. P. N. Pastore
Dr. H. Hudnall Ware, Jr.	Dr. Emily Gardner
Dr. Turner S. Shelton	Dr. Charles G. Young
Dr. William H. Higgins	Dr. William T. Moore
Dr. Carrington Williams	Dr. Rudolph Thomason
Dr. Charles H. Eller	Dr. C. L. Outland

Roanoke Academy

Dr. Frank A. Farmer	Dr. Charles M. Irvin
Dr. W. L. Powell	Dr. Charles D. Smith
Dr. C. H. Peterson	Dr. Mortimer H. Williams
Dr. George S. Hurt	Dr. E. Berkeley Neal

Rockbridge

Dr. Robert P. Eason	Dr. Thomas F. Kennan

Rockingham

Dr. Galen G. Craun	Dr. George Row

Russell

Dr. W. C. Elliott	Dr. R. F. Gillespie

Southampton

Dr. J. J. Grizzard	Dr. Frank Daughtrey

Southwestern Virginia

Dr. Glenn Cox	Dr. T. H. Worrell
Dr. S. A. Tuck	Dr. M. C. Newton
Dr. E. S. Elliott	Dr. Beverley F. Eckles
Dr. J. J. Giesen	Dr. S. J. Beeken
Dr. D. S. Divers	Dr. W. F. Delp
Dr. R. D. Campbell	Dr. Joseph J. Eller
Dr. William M. Gammon	Dr. Chas. J. Harkrader, Jr.
Dr. C. D. Moore	Dr. S. W. Huddle

Tazewell

Dr. Mary E. Johnston	Dr. Rufus Brittain

Warwick

Dr. Waverly R. Payne	Dr. E. B. Mewborne
Dr. A. A. Creecy	Dr. Geo. S. Grier, III

Wise

Dr. Thomas J. Tudor	Dr. Frank E. Handy

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... MRS. J. L. DECORMIS, Accomac
President-Elect ..... MRS. R. M. REYNOLDS, Norfolk
Vice-Presidents ..... MRS. ANDREW SHETTER, Richmond
MRS. O. ANDERSON ENGH, Alexandria
MRS. HERBERT JONES, Petersburg
MRS. M. H. HARRIS, West Point
Recording Secretary ..... MRS. M. H. HARRIS, West Point
Corresponding Secretary MRS. HOLLAND TROWER, Eastville
Treasurer ..... MRS. REUBEN SIMMS, Richmond
Parliamentarian ..... MRS. E. LATANE FLANAGAN, Richmond
Historian ..... MRS. H. A. LATANE, Alexandria

PROGRAM

Twenty-sixth Annual Meeting

Richmond October 18, 19 and 20, 1948.

Headquarters: John Marshall Hotel

A cordial invitation to attend the meetings and entertainments is extended to every woman attending the Convention.

Registration begins on the afternoon preceding the opening meeting and each woman is requested to register upon arrival, either as delegate or visitor. No registration fee.

Registration Booth open Monday, October 18th, from five to six P. M. and from seven to eight P. M.

CHAIRMAN OF ARRANGEMENTS:
Mrs. Luther Brawner.
CO-CHAIRMEN:
Mrs. Wyndham B. Blanton.
Mrs. Thomas F. Wheeldon.
Mrs. Ernest T. Trice.
Mrs. John P. Williams.
Mrs. Fred Finch.
Mrs. Thomas S. Chalkley.
Mrs. Walter J. Rein.

Monday, October 18

8:00 P. M.—Pre-Convention Board Meeting.
All local Presidents, Presidents-Elect, State Officers and Chairmen are expected to attend this meeting.

Tuesday, October 19th

8:30 A. M.—Registration Booth Open.

GENERAL ANNUAL MEETING

9:30 A. M.—John Marshall Hotel.
All women attending the Convention are cordially invited.
Mrs. Joseph LeCenne DeCormis, President, presiding.
Invocation—Mrs. Hawes Campbell, Richmond.
Address of Welcome—Mrs. Thomas S. Chalkley, Richmond.
Response—Mrs. Chester D. Bradley, Hampton.
Report of Committee on Arrangements — Mrs. Luther Brawner, Richmond.
In Memoriam—Mrs. R. E. Booker, Lottsburg.
Minutes of the Twenty-fifth Annual Convention.
Minutes of the Post-Convention Board Meeting.
Minutes of the Mid-Winter Board Meeting.
Roll Call of Auxiliaries.
President's Message—Mrs. J. L. DeCormis.
President's Announcements.
Guest Speakers—
Mrs. Luther H. Kice, President of the Auxiliary to the American Medical Association.
Mrs. Olin S. Cofer, President of the Auxiliary to the Southern Medical Association.
Reports of Officers and Chairmen of Standing and Special Committees.
Reports of Local Presidents.
Report of Council to the Women's Auxiliary to the Southern Medical Association—Mrs. P. M. Chichester.
Unfinished Business.
New Business.
Recommendations from the Board.
Reports.
Committee on Resolutions.
Nominating Committee—Mrs. J. E. Hamner, Chairman.
Election of Officers.
Installation of Officers—Mrs. E. Latane Flanagan, Parliamentarian.
Presentation of Gavel.
Adjournment.

LUNCHEON

1:30 P. M.—Country Club. Honoring especially invited guests of the Medical Society and Auxiliary with their husbands and wives; Honorary Auxiliary Members (Miss Agnes Edwards and Mrs. William Lett Harris); past Presidents of the Auxiliary; the retiring and incoming Presidents of the Medical Society and their wives; the Presidents of the Auxiliaries to the American Medical Association and the Southern Medical Association and the members of the Advisory Council and their wives.
Greetings—Dr. Guy Fisher, President of the Medical Society of Virginia.
Inaugural Address of President—Mrs. R. M. Reynolds.
Music and Fashion Show.

3:30 P. M.—Post Convention Board Meeting.

6:30 P. M.—Cocktail Party.
7:30 P. M.—Banquet and entertainment.

Wednesday, October 20

9:00 A. M.—Past Presidents' Breakfast.

EDITORIALS

The Internal Circulation of the Kidney.

PASTEUR is said to have quoted Benjamin Franklin to the effect that an original investigation is like a newborn baby; one never can tell how it will turn out. A good example is the recent work of Trueta and others, from the Nuffield Institute for Medical Research, Oxford, which is fasinatingly told in a little book of 187 pages which was published in England by Blackwell Scientific Publications, Ltd., in Canada by The Ryerson Press and in this country by Charles C. Thomas, Springfield, Ill. The story as we learned it in London, was that Trueta was professor of Surgery at Barcelona, where during Franco's war he had considerable experience with bomb injuries. At the end of the war he resigned his professorship and went to Paris to rest. The British Government heard about him and someone from the British Embassy called on him and persuaded him to come to London. The result was that the laboratory facilities of Oxford University were made available to him.

The investigation started out to find the cause of the "crush syndrome", the aneuria which followed the release of pressure in crushing injuries of a limb. It was generally supposed that toxins formed in the injured muscle got back into the circulation when the debris was cleared away from the leg (or arm) and the circulation restored. Trueta and his coworkers found that when a ligature was placed around the thigh of an anesthetized rabbit and allowed to stay an arbitrarily chosen two hours, it produced the crush syndrome. Even before the ligature was released there was a constriction of the proximal portion of the iliac artery, of the renal artery of the same side and of the artery of opposite thigh. The same effect they found could be produced by stimulation of the proximal end of the sciatic or of the distal end of the splanchnic nerve. Futhermore division of the splanchnic nerves prevented constriction of the renal arteries when a ligature was applied to the thigh. The injection of adrenalin, pituitrin or pitressin in large doses also produced a constriction of the renal artery, as did also sharp, rapid hemorrhage. The injection of staphylococcus toxin in susceptible animals produced constriction of the renal artery and blanching of the cortex of the kidney which persisted so long that necrosis of the cortex resulted in some instances. They studied the kidneys by cineradiography and by serial plates after injecting thorotrast into the circulation; by injecting the renal arteries and veins with various injection masses and then X-raying, sectioning or macerating the kidney's substance; and by direct observation during the experiments. Early in the experiments it was noted that when the cortex blanched there was a shortening of the time it took for the thorotrast to appear in the renal vein, and also that streaks of bright blood, frequently pulsile in character, appeared in the renal vein.

After proving that nerve stimulation, certain drugs, streptococcus toxin or sudden loss of blood could produce constriction of the renal artery and consequently blanching and even necrosis of the renal cortex, the investigators turned their attention to finding out why and how the blood passed through the kidneys more quickly under such circumstances. The account of this step-by-step approach to the solution reads like a well told detective story. The outcome was the finding that the blood has two pathways through the kidney. Ordinarily most of the blood passes through the glomeruli of the cortex into the efferent capillaries and then into the collecting veins. Under shock conditions the blood is partly or completely shunted through special subcortical glomeruli into straight venules looped about Henle's loops and then into the collecting veins, leaving the cortex ischaemic. Furthermore, one capillary of the group in

each juxtamedullary glomerulus takes the brunt of this emergency circulation and when the process is repeated becomes dilated more and more. The remaining capillaries *pari passu* become atrophic, mere vestiges, and finally disappear entirely, leaving a dilated channel in place of a tuft of capillaries, so that this circulation which at first was merely temporary, become more or less permanent. The white kidney of the pathologist is the result. Also one can readily see the mechanism of essential hypertension. Emotion and nervous tensions can easily produce a condition in the kidney that is comparable to that produced experimentally by the Goldblatt clamp. Thus an investigation that started to find out why there was aneuria after crushing injuries to the limbs, eventually gave us a new concept of the physiology of the kidney and an explanation of a mechanism by which hypertension develops.

Veratrum Viride and Changing Medical Thought.

IN 1942 we read a paper before the Obstetrical Society of Boston on the Treatment of Eclampsia. In that paper we went into the history of veratrum viride in its relation to the treatment of eclampsia. The story is a good example of seeing what we think we ought to see. In 1859, D. Baker of Eufaula, Alabama, reported he had used veratrum viride for the control of convulsions in infants and that he had used it successfully in one case of postpartum eclampsia. He did not think it wise to use it in intrapartum convulsions for fear the medicine would stop uterine contractions. Twelve years later, in 1871, Fearn reported 10 cases he had treated with veratrum viride and several others that had been treated by his colleagues. For some time after this report, the treatment was known as the Brooklyn method. In 1887, J. D. Rushmore collected 41 reports with a total of 85 cases treated in Kings County. There were 65 recoveries. In two cases the convulsions continued in spite of the veratrum viride. He was of the opinion that veratrum viride had little effect in reducing the mortality, but attributed the lowered mortality to the substitution of chloroform for indiscriminate bleeding. Jewett, however, writing in the same year, is more enthusiastic about the drug and says that if the pulse be reduced to 60 or less, no further convulsions will occur. Theophilus Parvin was also an advocate of the use of the veratrum viride, and Reed mentions the fact that Parvin reported 284 cases treated with the drug, before the International Congress of Gynecologists at Geneva (1896) with a mortality of only 8%. In 1905 the treatment of eclampsia was discussed by the American Gynecological Society. Kirkley was of the opinion that venesection was the best treatment, but veratrum viride was almost as good. Cragin relied upon chloral, chloroform, veratrum viride and enemata. In 1917 Cragin reported that in the preceding 10 years he had reduced his maternal mortality in eclampsia from 28.3% to 14.5% and he attributed this to substituting ether for chloroform and to using less speed in terminating labor. He used veratrum viride in place of venesection. Williams, on the other hand, preferred bleeding. At this stage of the story, the sheet anchor of treatment was evidently the rapid emptying of the uterus and bleeding. Nothing must stop uterine contractions, although Cragin questioned the advisability of using too much speed in emptying the uterus. Veratrum viride was regarded as merely a substitute for venesection. With changing concepts of the cause of eclampsia, venesection and veratrum viride went out of the picture hand in hand so to speak, except in Cincinnati.

Zinke gives the credit to Reamy for introducing the remedy to Cincinnati, where its use has continued until the present. In 1940 Bryant and Fleming reported most excellent results with its use, and they now have a series of consecutive cases with

the extremely low mortality of less than 2%. Now that we believe that vasa spasm plays a role in the development of eclampsia, veratrum viride again becomes the logical drug, and the Cincinnati results lend support to this belief. The newest development along these lines is the control of the blood pressure, and the convulsions, by continuous conduction anesthesia. As yet there have not been enough cases treated in this manner to properly evaluate it.

The Annual Meeting

THE 101st annual meeting of the Medical Society of Virginia will be held in the John Marshall Hotel, Richmond, on October 18, 19 and 20. The Society has become exhibit conscious and the state chairman of Scientific Exhibits Dr. Vincent W. Archer, is working hard to have the best scientific exhibits in the history of the Society. The Commercial Exhibits will occupy all available space. The program, published in this issue of the MONTHLY, speaks for itself. In addition, it is planned to have moving pictures on some general subject each morning before the scientific Program begins.

The personnel of the Local Committee of Arrangements is sufficient assurance that everything will be done for your comfort. The chairman is Dr. Charles L. Outland. Dr. B. W. Rawles, Jr., has charge of Hotels and Meeting Halls; Dr. T. Dewey Davis of Finances; Dr. Rex Blankinship of Entertainment; Dr. H. B. Haag of Commercial Exhibits; Dr. W. Ambrose McGee of Scientific Exhibits; Dr. R. F. Simms of Publicity; and Mrs. Luther C. Brawner of the Auxiliary.

Registrations at the hotel are coming in rapidly. Our advice is to make your reservations *now*.

SOCIETIES

The Medical Society of Northern Virginia

Held its tri-yearly meeting at the George Washington Hotel, Winchester, on August 10, with Dr. C. H. Iden of Berryville, president, conducting the program. Following the reading and approval of the minutes of the preceding meeting, case reports were given by Drs. H. I. Pifer, P. T. Grove, John C. Hortenstine and M. J. W. White.

The society was honored with two guest speakers for the occasion. Dr. Harvey Haag, Dean of medicine at the Medical College of Virginia, spoke on the subject, "Recent Advances In Drug Therapy", and Dr. Janet B. Hardy of Johns Hopkins gave an interesting talk on "The Rh Factor". The guest speakers were elected honorary members of the society.

Drs. John McL. Adams and John T. Thornton of Winchester and Dr. W. Smoot Carter of Leesburg were received into the society as new members.

Following the business session, an excellent luncheon was enjoyed by all.

Dr. Fred D. Maphis, Jr., Strasburg, is secretary.

Alleghany-Bath County Medical Society.

New officers of this Society for the ensuing year are: President, Dr. Frank L. Wysor, Clifton Forge; vice-president, Dr. J. V. Jordan, Covington; and secretary-treasurer, Dr. R. P. Hawkins, Jr., Clifton Forge, who has held this position for a number of years.

The Southwestern Virginia Medical Society

Will hold its semi-annual meeting at Maple Shade Inn, Pulaski, on October 7, with an afternoon and a night scientific program and banquet. Dr. Herbert Chase of New York is to be one of the guest speakers. At this meeting will be held the election of officers and reports of various committees will be given, so a large attendance is expected.

Officers of the Society are: President, Dr. Douglas D. Vance, Bristol; vice-president, Dr. R. M. DeHart, Radford; and secretary-treasurer, Dr. Andrew F. Giesen, Radford.

NEWS

Medical Society of Virginia.

The annual meeting of the Society is little more than a month away, and it is hoped many Virginia doctors are planning to attend. Reservations should be made promptly.

An innovation of this meeting is the holding of the Council meeting on Sunday afternoon, October 17, followed by the first meeting of the House of Delegates that evening at 8.00 p.m. (Reports of committees appear in this issue of the MONTHLY.) It is hoped in this way to complete much of the business before beginning of the scientific program on Monday morning at 9:00 a.m. It is further planned to have interesting moving pictures in advance of each morning session. Scientific and technical exhibits will both be well worth seeing.

Two of Dr. Fisher's guest speakers are Dr. B. R. Kirklin, well known radiologist of the Mayo Clinic, and Dr. Harrison Flippin, a Virginian by birth, son of Dr. J. C. Flippin, a former president of the Society, who has won for himself a place of distinction in the medical world of Philadelphia.

A feature of more than passing interest will be the awarding of certificates of appreciation for service rendered by members who graduated fifty or more years ago.

Alumni of the two Virginia medical schools will have dinners on Monday, October 18, a number of special societies will have luncheon meetings on Tuesday, and that evening will be held a cocktail party, and banquet with entertainment, followed by dancing.

Make this an occasion to meet with old friends and plan to attend. Mark the dates on your calendar—October 18, 19 and 20.

New Members of State Board of Medical Examiners.

Governor Tuck has just announced the following appointments to the State Board of Medical Examiners: Dr. Waverly R. Payne, Newport News, from the First District; and Dr. Thomas G. Hardy, Farmville, from the Fourth District. Each appointment is for five years ending June 1953.

The Southern Medical Association

Will hold its forty-second annual meeting at Miami, Florida, on October 25-28 with the Dade County Medical Association as sponsor. Dr. Lucien A. LeDoux of New Orleans is president.

At a meeting of the Executive Committee on July 24, Dinner Key was selected as general headquarters for the following: registration; all section meetings, scientific, technical and hobby exhibits; and motion pictures. Dinner Key (the former Pan American Air Depot) is ten minutes' ride from the general hotel headquarters and makes it possible to hold all of the above activities in one location. There is parking space for over a thousand automobiles around the main building.

The evening programs, which will include the General Public Session, the General Session and the President's Ball, will be held at the Municipal Auditorium. The auditorium is just off of Biscayne Boulevard and is only a short distance from the general hotel headquarters.

Hotel reservations will be handled by the Hotel Committee, Southern Medical Association Meeting, c/o City of Miami Convention Bureau, 320 N. E. Fifth Street, Miami 32, Florida. Since the meeting is being held earlier than usual, all requests for rooms should be made immediately.

There will be twenty-one section meetings, two general sessions, one conjoint meeting (American College of Chest Physicians, Southern Chapter) and the "Miami Day" General Clinical Sessions.

Dr. Alexander McCausland,

Who has been at the University of Virginia since early in 1947, announces he is now in Roanoke, with offices at 818 South Jefferson Street.

Married.

Robert A. Lightburn, Crestline, Ohio, and Dr. Alize Cole of Chilhowie and Richmond, July 31.

Addition To Staff of State Health Department.

Dr. Albert S. McCown, a native of Lexington, has been named director of the Bureau of Communicable Disease Control, to succeed Dr. W. A. Browne, resigned. He is a graduate of Johns Hopkins University in the class of '18, from which he sometime later secured his degree of Doctor of Public Health. He was engaged in the private practice of pediatrics from 1920 to 1935, following which he served for two years as medical director of the Maternal and Child Health Division

of the Children's Bureau in Washington. He was formerly assistant state Health Commissioner of Michigan, medical director of the American Red Cross, and in the Medical Corps of the U. S. Army. He will enter upon his new duties on September 16.

Army Hospital Beds Set Aside For Veterans.

A total of 3,035 beds in Army hospitals throughout the United States have been allocated for treatment of veterans, according to announcement by Major General Raymond W. Bliss, Surgeon General of the Army. The allocations were made at the request of the Veterans Administration.

Beds allotted for veterans may be used partly for treatment of chronic disabilities, with 325 set aside specifically for tuberculosis cases at Fitzsimons General Hospital in Denver. None of the beds allocated will be used for patients who could be treated in domiciles.

Postgraduate Courses in Diseases of the Chest.

The Council on Postgraduate Medical Education of the American College of Chest Physicians is sponsoring three postgraduate courses in the latest developments in the specialty of Diseases of the Chest. Each of the courses will be of one week's duration and are open to all physicians. Tuition fee is $50.00 for each course, and registration is limited to fifty physicians for the courses being presented in Chicago, September 20-25, New York City, November 8-12.

Applications for the courses should be made through the Executive Offices, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois, and reservations will be accepted in the order received.

Dr. E. B. Quarles,

A native of Richmond, was recently named director of the Veterans Administration hospitalization and requirements service. He is a graduate of the Medical College of Virginia in 1937 and has recently been in St. Louis where he was associate director of Barnes Hospital.

Medical College of Virginia News.

Dr. Harvey B. Haag, Dean of the School of Medicine, has announced the establishment of a Department of Legal Medicine in the curriculum of the school, effective in September. Dr. Herbert Stewart Breyfogle, Chief Medical Examiner of Virginia, will serve as head of the new department, assisted by Sidney Kaye, Toxicologist of Virginia.

In addition to offering ten hours of instruction in legal medicine, the department is planning to engage in research and offer post-graduate work to physicians. The courses of the department will involve teaching in the field of medicine, as it relates to the collection of scientific evidence for the administration of civil and criminal law. This will include murder, suicide, accident, workmen's compensation, civil cases, and all problems that face a coroner.

The research project to be undertaken will be a study of the role of injury in the cause of cancer.

Dr. Charles M. Caravati, assistant Professor of Clinical Medicine and Director of the Department of Continuation Education, acted as Visiting Medical Chief at the Atlantic City (N. J.) General Hospital, from July 17 to 24. This is part of the program of resident training now in progress at this institution, and many invited instructors from different parts of the country are participating in it.

The College has started experimentation with radioactive gold on tumor mice to seek a treatment for cancer under the skin. The work is under the direction of Dr. George Zur Williams, who is in charge of cancer research at the college, and is working in cooperation with Vanderbilt University, which already is using injections of the radioactive gold on cancer patients.

The Board of Visitors of the College have authorized the inauguration of a course to train hospital administrators. Mr. C. P. Cardwell, Jr., Director of the Hospital Division of the college, is developing the course of study, which is being offered to meet the increase in demand for trained hospital administrators. It is expected that it will begin by October of this year.

President W. T. Sanger reported the receipt of $43,000 in gifts recently. Leading the list was a gift of $27,400 from the Commonwealth Fund to promote the College Regional Hospital Program. Included also was a gift from the American Tobacco Company of $15,000 for research.

Dr. Randolph P. Pillow,

Class of '44, University of Virginia, after release from the Medical Corps of the Army last January, served on the house staff of the Virginia Mason

Hospital, Seattle, Wash., for six months. He is now at the University of Virginia Hospital on a fellowship with Dr. H. B. Mulholland.

Dr. T. Duval Watts,

Richmond, announces the opening of his office for the practice of general surgery at 1001 West Franklin Street.

Internships in VA Hospitals.

The Veterans Administration announces a limited number of "straight" and "rotating" internships for qualified medical graduates for one year, subject to reappointment for a year, if desired and recommended by the local dean's committee. These will be in 75 VA hospitals now offering residency training programs in cooperation with 59 Class "A" medical schools over the country.

Detailed information may be obtained from Veterans Administration, Richmond Branch Office, 900 North Lombardy Street, Richmond 20, Va.

Dr. W. Ambrose McGee,

Richmond, was a member of the faculty of the Southern Pediatric Seminar, held at Saluda, N. C., July 5-17.

Do You "Stop and Shop"?

That is what we suggest with regard to the advertisements in your medical journal—the VIRGINIA MEDICAL MONTHLY. The good friends who patronize its pages make it possible to give you a worthwhile magazine. Won't you "stop and shop" with them each month?

Drs. Tompkins.

Drs. Pendleton S. and Souther F. Tompkins recently visited their parents, Dr. and Mrs. E. P. Tompkins, in Lexington.

Dr. Pendleton Tompkins, after some years of practice as obstetrician and gynecologist in Philadelphia, located for practice in the same specialty in San Francisco. He and his family have their residence in San Mateo.

Dr. Souther Tompkins is a Fellow at Mayo Clinic, where he is taking a course in orthopedic surgery. He recently completed a tour of duty—under auspices of The Clinic—in Crippled Children's Hospital, St. Louis. His course of study was interruped by war duty—with the Navy in Japan—and he will continue with The Clinic another year.

VA Announces Residencies In Psychiatry and Neurology.

Veterans Administration has immediate openings for at least one hundred young doctors interested in taking residency training in psychiatry or neurology or both.

VA Hospitals offering these residencies are situated in almost every section of the country, and include hospitals at Perry Point, Md., and Roanoke, Va., in this section. In general, these residencies cover a three-year program of specialty training, although one and two-year programs also are available at most of the hospitals.

Applicants for residency training in these fields must be citizens of the United States, graduates of a school of medicine approved by VA and the Council on Medical Education and Hospitals of the American Medical Association, and have completed an internship acceptable to VA.

Interested doctors may obtain information and application forms regarding the residencies by writing the Medical Director, Veterans Administration, 900 N. Lombardy Street, Richmond, Va.

University of Michigan Offers Residencies In General Practice.

More general practitioners to care for the needs of rural areas in Michigan is the goal of an experimental two-year residency program inaugurated this summer by the University of Michigan Medical School at Ann Arbor.

The first year of the program will consist of six months of internal medicine, dermatology, and surgery, and six months on medical and surgical services, to include obstetrics, psychiatry, neurology, dermatology, other nonoperative specialties, and all the operative specialties.

The second year will be spent on obstetrics and gynecology, neuropsychiatry, pediatrics, and medical and surgical services, "with a possible third year".

Professor of Ophthalmology At Jefferson Medical College.

Dr. Arno Emerson Town of New York City was appointed Professor of Ophthalmology at the Jefferson Medical College, Philadelphia, on July 1. He succeeds Dr. Charles E. G. Shannon, whose retirement became effective on that date.

Dr. Town is a graduate of the Jefferson Medical College in the class of 1926, and received a Master of Medical Science degree in Ophthalmol-

ogy from the University of Pennsylvania in 1939. He was Clinical Professor of Ophthalmology, New York University, School of Medicine, at the time of his appointment to professorship at Jefferson.

Dr. Thomas S. Edwards,

Who has been taking special work at the University of Virginia Hospital, announces the opening of his office at 1021 West Main Street, Charlottesville, with practice limited to internal medicine.

Group To Study Medical Education.

The last General Assembly of Virginia created a legislative commission to study medical education in the State and, at the organizational meeting held early in August, Dr. W. C. Caudill of Pearisburg, a state senator, was named chairman. State senator Lloyd C. Bird of Richmond was elected vice-chairman. The Assembly directed the Commission to "consider the costs and the needs of medical education and the relationship of medical education to the services that it renders and the needs of the people particularly in rural areas."

In addition to those named, members of the Commission are Dr. M. G. Cox of Independence, Dr. E. W. Dodd of Buchanan, and Dr. Jack Witten of North Tazewell (members of the House of Delegates), Samuel M. Bemiss, Dr. John Bell Williams, and David J. Mays of Richmond, and Dr. Walter B. Martin of Norfolk.

Drs. Higgins & Higgins.

Dr. William H. Higgins, Richmond, announces the association of Dr. William H. Higgins, Jr., in the practice of internal medicine. Their offices are in Medical Arts Building.

Dr. W. W. Zimmerman,

Who has been practicing at Purcellville since his return from Service, is taking a residency in ophthalmology of the Medical College of Virginia, Richmond.

Dr. Keith M. Oliver, of Lynnhaven, a graduate in medicine from Duke University, has taken over Dr. Zimmerman's practice at Purcellville.

Dr. Charles E. Davis,

Class of '40, University of Virginia Medical School, has located in Norfolk with offices at 705 Medical Arts Building for practice limited to surgery and gynecology. He was formerly an instructor in this specialty at the University of Virginia and prior to moving to Norfolk, he was for two years chief surgeon at the Beckley (W. Va.) Hospital.

Arthritis and Rheumatism Foundation.

A new national foundation has been organized to promote the study of arthritis and rheumatic conditions from which an estimated 7,500,000 persons in the United States are suffering.

The Arthritis and Rheumatism Foundation is sponsored by the American Rheumatism Association in cooperation with the National Arthritis Research Foundation, the Detroit Fund for Crippling Diseases, and others. Medical policies and activities will be directed by a medical and scientific committee now being organized.

An editorial in the July 24, *J.A.M.A.* comments:

"The foundation is organized along the lines of similar groups such as the National Foundation for Infantile Paralysis, the American Cancer Society, and the American Heart Association, and it proposes to function in a similar manner.

"Its objectives include surveys of the problem, graduate education of the medical profession, education of the public, research, fellowships, and improved care for those with rheumatic disease.

"Complete cooperation with the medical profession through county and state medical societies indicates recognition of the importance of medical cooperation in achieving the ends that are sought. The objectives indicated, the persons interested, and the approach to the problem merit the support of the medical profession and the public."

Dr. Louis N. Waters,

Class of '43, University of Virginia Medical Department, announces his removal from Dante to Norton.

Born.

Dr. and Mrs. Forrest Elliott Oglesby of Richmond announce the birth of a son, Thomas Garrett Oglesby, on July 14.

"What It Takes To Make a Doctor".

The years of study and hard work which precede a doctor's career are known to the public in a general way. *Look* magazine for August 31 illustrates the details by photographic sequence. You may be interested in seeing these as a reminder of the past.

The American College of Physicians

Will conduct its 30th Annual Session at New York, N. Y., March 28 through April 1, 1949. Dr.

Franklin M. Hanger, Jr., of New York City is the Chairman for local arrangements and the program of Clinics and Panel Discussions. The President of the College, Dr. Walter W. Palmer, Director of The Public Health Research Institute of the City of New York, Inc., and Professor Emeritus, Columbia University College of Physicians and Surgeons, is in charge of the program of morning Lectures and afternoon General Sessions.

Wanted—

Physician for industrial practice. For particulars, write Medical Director, Clinchfield Coal Corporation, Dante, Virginia. (*Adv.*)

OBITUARIES

Dr. Rea Parker,

Prominent Isle of Wight physician, died at his home in Smithfield on August 2, death being due to a heart attack. He was born in Hertford County, North Carolina sixty-eight years ago. He graduated from the former University College of Medicine, Richmond, in pharmacy in 1903 and in medicine in 1908, and joined the Medical Society of Virginia that year. He was a fellow of the American Medical Association, the Seaboard and Isle of Wight Medical Societies and president of the former Walter Reed Medical Society. In addition to the above named, he was affiliated with the Smithfield Rotary and Ruritan Clubs, Boy Scouts, and other civic organizations, in all of which he took an interested part. Funeral rites were at Christ Episcopal Church, of which he was a vestryman. His wife and a son, Dr. Rea Parker, Jr., survive him.

Dr. William Arthur Jeffress,

Practicing physician in Rockbridge County for most of his professional career, died at his home at Fairfield, July 20. He was seventy-seven years of age and studied medicine at the former University College of Medicine, Richmond, from which he graduated in 1898. He had been a member of the Medical Society of Virginia for over forty years. His wife and two daughters survive him.

Dr. Charles P. Harshbarger,

Port Republic, died March 22, at the age of 80, death being due to coronary thrombosis. He was graduated from the Kentucky School of Medicine, Louisville, in 1892, and had practiced most of the time since then in Rockingham County. He was a member of the county school board, a trustee of Bridgewater College, and prominent in civic affairs. He had been a member of the Medical Society of Virginia for over fifty years.

Dr. James John Bishop,

Of Ivanhoe, died March 30, 1947, at the age of 79. He was the son of Dr. William Mason Bishop and was born at Rocky Gap. He graduated from the Tennessee Medical College at Knoxville in 1893 and was a practicing physician in southwestern Virginia from that time to his retirement. Dr. Bishop was a member in the Medical Society of Virginia from 1894. His second wife survives him. A son is Dr. J. M. Bishop of Roanoke.

Dr. Edward A. Gorman,

Alexandria, died July 19, at the age of seventy-six. He studied medicine at Georgetown University, Washington, D. C., graduating in 1898, and had practiced most of the time since then in Alexandria. He was health officer of that city prior to World War I, and was Past Grand Master of the Fourth Degree of the Knights of Columbus in Virginia and West Virginia. He had been a member of the Medical Society of Virginia since 1902.

Resolution On Death of Dr. Francis P. Parker.

The Virginia Society of Pathology and Laboratory Medicine, at a recent meeting, adopted the following resolution on Dr. Parker and requested that a copy be sent Mrs. Parker and a copy to the MONTHLY for publication:

One of the most respected members of our Virginia Pathological Society, Dr. Francis P. Parker, died on November 26, 1947.

Dr. Parker was a man of the highest personal and professional character, and a friend to his fellows and colleagues. He served his medical school at Emory University and the University of Virginia with honor and dignity. He served his country in Africa and Europe during the second World War, with distinction and devotion. He will always be remembered by his brother pathologists and other colleagues with respect and affection.

Therefore, be it resolved, that these remarks be incorporated in the proceedings of the Virginia Pathological Society, and that a copy be sent to Mrs. Parker.

F. L. APPERLY
J. R. CASH
W. E. BRAY
Committee

"...such as Metamucil..."*

For the treatment of the spastic colon the author suggests diet, elimination of the nervous element and "bulk producers." As examples of these he lists "agar-agar, in finely powdered form, in flakes, or in cereal-like form; derivatives of psyllium seed, such as Metamucil . . . . "*

METAMUCIL

"SMOOTHAGE"

IN CONSTIPATION

—"encourages elimination by the formation of a soft, plastic, water-retaining gelatinous residue in the lower bowel."†

Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent.

SEARLE RESEARCH IN THE SERVICE OF MEDICINE

Metamucil is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois.

*Glafke, W. H.: Spastic Colon, M. Clin. North America 26:805 (May) 1942.

†Council on Pharmacy and Chemistry: New and Nonofficial Remedies, 1947, Philadelphia, J. P. Lippincott Company, 1947, p. 320.

RIVERSIDE HOSPITAL, Newport News, Va.

A General Hospital (225 beds) with Departments in Medicine, Surgery, Obstetrics, Pathology, Radiology, Pediatrics and Nursing. The Hospital is accredited by the Council on Medical Education of the American Medical Association for training first year interns, mixed residencies, and the School of Nursing is accredited by the Virginia State Board of Nurse Examiners.

W. L. BEALE,
Administrator

MISS ALDA DITCHFIELD,
Director, School of Nursing

Dr. Botts' Eye-Ear-Nose- and Throat Hospital

Norton, Virginia

Fully equipped for the Medical and Surgical care of all Eye-Ear-Nose-Throat, Facio-Maxillary, Bronchoscopical and Esophagoscopical Conditions.

GEORGE W. BOTTS, M.D., Surgeon in charge.

For Further Information Address:

Superintendent, Box 498, Norton, Va.

A Modern Hospital for the Treatment of Alcoholism Exclusively

- A private hospital offering scientific, institutional, medical, psychological, reflex, reduction and other methods for the rehabilitation of consent patients suffering from alcoholism.

- All equipment modern with facilities to take care of 50 patients both male and female.

- Under the direction of a competent licensed M. D. with five consultant physicians subject to call. Registered Nurses in charge 24 hours daily.

Approved and licensed by the Virginia State Hospital Board. Atop beautiful Mt. Regis, five miles West of Roanoke, on Highway 11, in the quiet serene mountains of Virginia, conducive to rest, comfort and recuperation. Doctors inspection invited. For information phone or write.

WHITE CROSS HOSPITAL

WHITE CROSS HOSPITAL

Five Miles West of Roanoke on Route No. 11.
Salem, Virginia — Phone Salem 287

Copyright 1948. H. N. Alford, Atlanta, Ga.

TUCKER HOSPITAL

212 West Franklin Street
(corner of Madison)
RICHMOND, VIRGINIA

Private hospital for neuropsychiatric and endocrine cases under the charge of Drs. Beverley R. Tucker, Howard R. Masters and James Asa Shield.

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE WEST END RESIDENTIAL SECTION

FOR PATIENTS WITH

ALCOHOLIC PROBLEMS

. . . The Farm

A non-institutional arrangement in Howard County, Maryland, for the individual psychological rehabilitation of a limited number of selected voluntary patients with ALCOHOL problems — both male and female — under the psychiatric direction of Robert V. Seliger, M.D.

City office:

2030 Park Ave. Baltimore 17, Md.

MEMBERS MEDICAL SOCIETY OF VIRGINIA

You are cordially invited to visit Virginia's first and largest diaper plant during convention week, October 18-21, 1948.

STORK DIAPER SERVICE

3119 WEST MOORE STREET **RICHMOND, VIRGINIA**

Serving Richmond's Leading Hospitals and Homes Since 1936

Why not recommend the only diaper service that gives your patients

double protection

PLAY SAFE—BY ASKING YOUR PATIENTS TO SUBSCRIBE TO THE DIAPER SERVICE WHICH BEARS THIS SEAL!

It's you guarantee that you are prescribing diapers which are snow-white, soft, fluffy, and 100% "hospital" clean.

NATIONAL INSTITUTE DIAPER SERVICES MEMBER

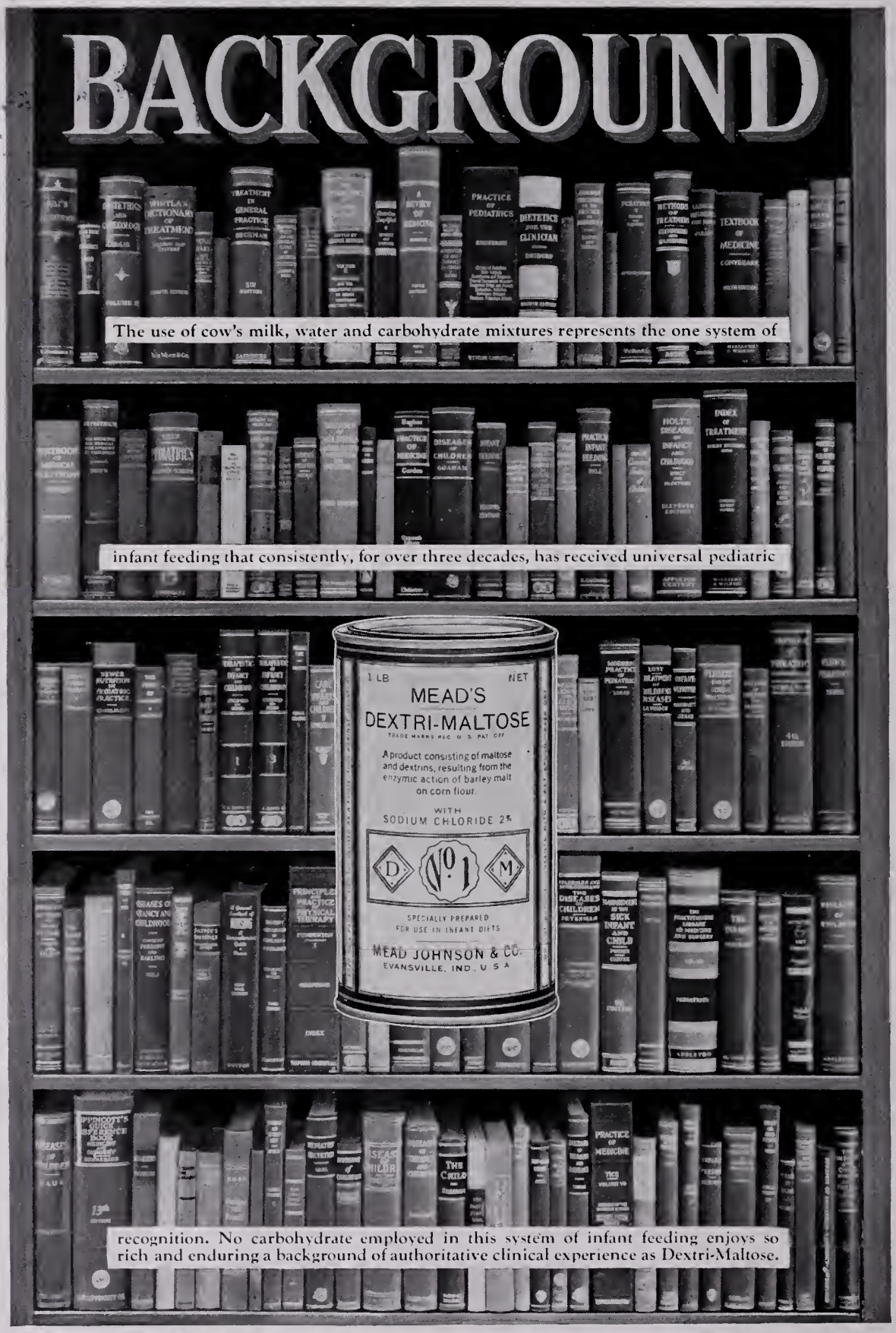
1 DIAPERS PROCESSED UNDER "NATIONAL LABORATORY CONTROL."
As a member of the National Institute of Diaper Services, our diapers are subject to the strict, periodic inspection of the Usona Bio-Chem Laboratories, of Philadelphia. Trained bacteriologists run culture tests throughout the year, to make sure our diapers meet rigid standards of sanitation and hygiene. Wash water, rinsing, soap formulas—every step of our process—is rigidly checked . . . again and again!

2 DIAPERS WHICH ARE ACTUALLY ANTISEPTIC, AND GERMICIDAL!
Every diaper is treated with a new-type organic compound—which actually gives the cloth itself both antiseptic and germicidal properties. The result is a diaper which may stay germ-free for 5, 8, 10 (in some cases up to 29) days! A diaper which not only has the power to inhibit, but to destroy, germs! (Tests made in accordance with specifications set down by the U.S. Government.)

IN RICHMOND
Stork Diaper Service, Inc.,
3119 W. Moore Street, Phone 5-2113

★

IN HAMPTON
Di-De Service,
424 Catalpha Avenue, Phone 4-1492


BACKGROUND
The use of cow's milk, water and carbohydrate mixtures represents the one system of
infant feeding that consistently, for over three decades, has received universal pediatric
1 LB
NET
MEAD'S
DEXTRI-MALTOSE
A product consisting of maltose and dextrins, resulting from the enzymic action of barley malt on corn flour.
WITH
SODIUM CHLORIDE 2%
D
No. 1
M
SPECIALLY PREPARED
FOR USE IN INFANT DIETS
MEAD JOHNSON & CO.
EVANSVILLE, IND., U S A
recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

THE N.Y. ACADEMY OF MEDICINE
OCT 11 '48
LIBRARY

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Advantage of Indirect Skin Tests for Young Allergic Children. W. Ambrose McGee, M.D., Richmond, Va. ---- 491

Gout Simulating Rheumatoid Arthritis. William A. Read, M.D., and Russell Buxton, M.D., Newport News, Va.--- 493

Red Cross Blood Program. George B. Dowling, Rear Admiral, M.C., U.S.N. (Ret.), Alexandria, Va. ---------- 498

Foreign Bodies in the Gastro-Intestinal Tract. Robert Lee Payne, Jr., M.D., Norfolk, Va. ---------- 503

Varied Allergic Reactions to Penicillin. James B. Black, Jr., M.D., J. Warrick Thomas, M.D., W. Randolph Graham, M.D., and DuPont Guerry, III, M.D., Richmond, Va. -- 505

Myocardial Infarction. Julian R. Beckwith, M.D., W. R. Chitwood, M.D., and Allen E. Le Hew, M.D., Clifton Forge, Va. ---------- 511

Indiscriminate Use of Estrogens in the Menopause. J. M. Habel, Jr., M.D., Suffolk, Va. ---------- 517

A Report of Sixty-Two Cases of Infectious Hepatitis Occurring in 1946, Station Hospital, Camp Lee, Virginia. James F. Schieve, Captain, M.C., Camp Lee, Va. ------ 521

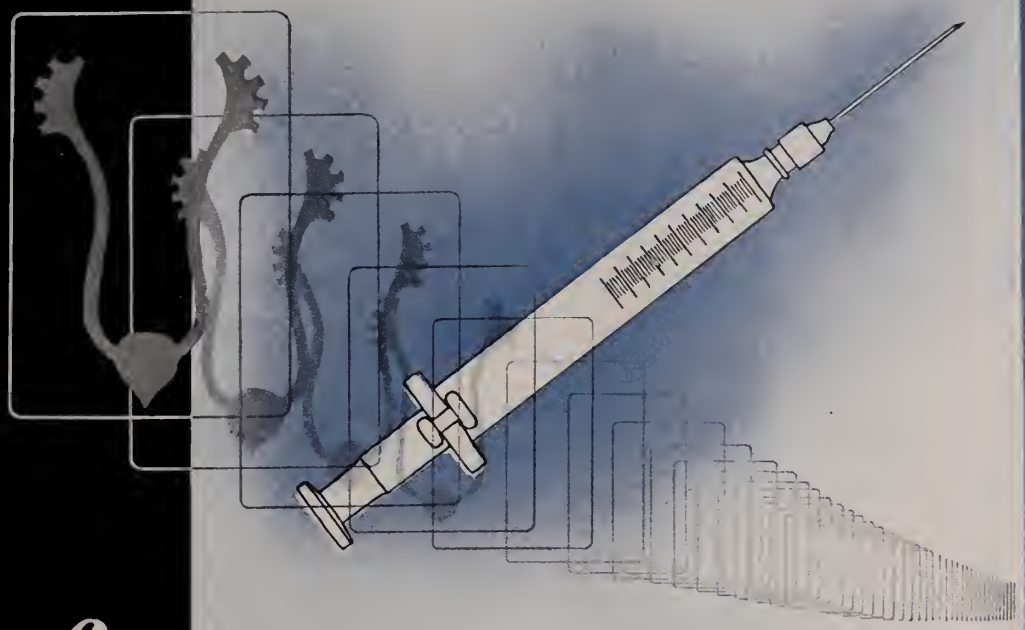
Colles' Fractures. Theodore B. Strange, M.D., Charlottesville, Va. ---------- 526

Continued on page 6.

Medical Society of Virginia
Richmond, October 18-20, 1948

October, 1948

Rickets may exist in a subclinical form in as many as 46.5 percent of children between the ages of two and fourteen.[1]



Safe for injection

The safety record of NEO-IOPAX* — Schering's brand of sodium iodomethamate for intravenous urography — is noteworthy: more than fifteen years of effective urinary tract visualization *without a single fatality* reported in the literature. The relative safety of

NEO-IOPAX®

(disodium N-methyl-3,5-diiodo-chelidamate)

is due to its unique composition and stability, the meticulous care exercised in its preparation, the careful control of all manufacturing stages, and the rigorous inspection of the finished product. Each ampul of NEO-IOPAX is sterile and free from foreign particles.

NEO-IOPAX is available in 10, 20 and 30 cc. ampuls of 50% concentration and 10 and 20 cc. ampuls of 75% concentration. Packaged in boxes of 1, 5 and 20 ampuls.

*®

Schering CORPORATION • BLOOMFIELD, NEW JERSEY
IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL

NEO-IOPAX

SCHERING

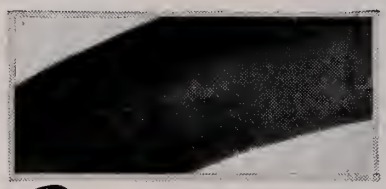
"LITTLE THINGS THAT COUNT"

Examine the "RAMSES"* Flexible Cushioned Diaphragm carefully and you will discover the "little things" that count so much in adding to the patient's comfort and protection.

For example: there's the all-important patented rim-construction—flexible in all planes and presenting a wider, unindented area of contact with the vaginal walls.

Unretouched photomicrographs. Enlargement 10 diameters.

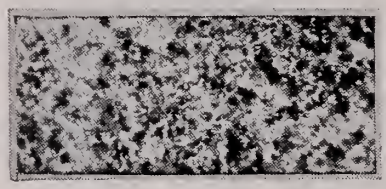
Conventional Diaphragm Rim



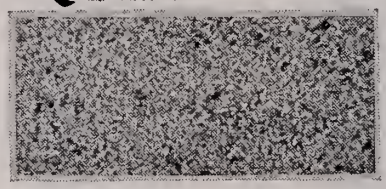
Diaphragm Rim

Ramses

Conventional Diaphragm Dome



Diaphragm Dome



. . . and the velvet-smooth dome—made of pure gum rubber by an exclusive process that gives it lightness, strength, and unusually long life.

Comparison quickly proves why the "RAMSES" Flexible Cushioned Diaphragm† is a first choice of both physician and patient. Available in sizes ranging from 50 to 95 millimeters, in gradations of 5 millimeters.

†"RAMSES" Flexible Cushioned Diaphragms are accepted by the Council on Physical Medicine of the American Medical Association.

gynecological division

JULIUS SCHMID, Inc.

423 West 55th Street, New York 19, N. Y.

quality first since 1883

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

Quinidine

Its decontrol by the government has given the physician much relief. There is now no restriction on its purchase nor as to how it may be prescribed.

Quinidine Sulfate Tablets (Davies, Rose)

0.2 Gram (approx. 3 grains)

are now readily available

These tablets
are made from the natural salt
are alkaloidally assayed and standardized
insuring accuracy and therapeutic dependability.

Each tablet is scored to permit divided dosage and bears the letters DR as a means of identification.

Kindly write "Davies, Rose" when prescribing these tablets.

Tablets of Quinidine Sulfate 0.12 Gram (approx 2 grains) and 0.3 Gram (approx. 5 grains) are also available, but the 0.2 Gram (approx. 3 grains) are supplied unless otherwise specified.

Davies, Rose & Company, Limited

Pharmaceutical Manufacturers

Boston 18, Massachusetts, U.S.A.

Q1

safe . . . rational . . . effective

in the treatment of **overweight**

Harris, Ivy and Searle conclusively proved that 'Benzedrine' Sulfate, *alone*, safely depresses the overweight patient's appetite—and when caloric intake is sufficiently lowered, weight reduction is facilitated.

After a comprehensive series of functional tests, these same investigators conclude: "No evidence of deleterious effects of the drug (amphetamine sulfate) were observed." (J.A.M.A.134:1468[Aug.23] 1947.)

Smith, Kline & French Laboratories, Philadelphia

Benzedrine Sulfate tablets • elixir

(*racemic amphetamine sulfate, S.K.F.*)

One of the fundamental drugs in medicine

'BENZEDRINE' T.M. REG. U.S. PAT. OFF.

Virginia Medical Monthly

Vol. 75, No. 10
WHOLE No. 1156

RICHMOND, VA., OCTOBER, 1948

$2.00 A YEAR
25 CENTS A COPY

ADVANTAGE OF INDIRECT SKIN TESTS FOR YOUNG ALLERGIC CHILDREN*

W. Ambrose McGee, M.D.,
Richmond, Virginia.

The solution of a crime is dependent upon the thorough investigation of possible clues to ascertain the motive behind the affair and the one or ones guilty. Many of the clues which at first seem relevant are soon found worthless. Later, however, by persistent determination a few of the clues eventually lead to the guilty party.

A very similar situation exists when a recurrent or chronic disease or disorder is diagnosed as an allergic condition. In spite of a careful physical examination, various laboratory procedures and a painstaking history, it is generally necessary to have to rely on skin tests for additional clues. However, in the case of a child under one year of age such is usually not the case.

By slow introduction of single foods and vitamins and by allowing first a five-day interval, then a three-day interval to elapse after each new food or vitamin is ingested, it is possible to find clues or signals that reveal allergic tendencies. Certainly, when parents present a clinical history of present allergy or some past allergic disorders, such a routine plan will reduce to a very low minimum the need for skin tests in infants during their first year. It will also put us on our guard in watching recurrent disorders, such as head colds, abdominal pain, headaches, sneezing, persistent coughing, personality changes, skin rashes, etc. For when such recur, we then realize it is a "flare-up" of the allergic signals recognized early in infancy.

For children over one year of age, skin tests are usually needed, once an allergic diagnosis is made. For those under seven years, direct skin tests are not an easy procedure. Parents often wait until the child gets old enough to take the punishment of skin tests before resorting to them.

It is unfortunate that almost all of those physicians devoting a large part of their efforts to allergy are internists and not pediatricians. They do not often see allergic disorders when the trouble is at a minimum, as with difficult feeders, and they do not have to treat medically the child having the allergy. In addition, many internists-allergists feel it will not often upset the child's morale if the skin tests are done by an expert technician, and when only a few needles are used at a visit. Be that as it may, such a prolonged procedure, when adequate food and inhalant tests are made, is hard on the child's morale for months and occasionally years afterward. Pediatricians have often remarked to me that the treatment (speaking of direct skin testing) is worse than the disease.

To offset the fear of an adequate skin testing, there is available a very useful method of performing all testing by proxy. About 15 c.c. of the allergic child's blood is obtained under sterile precautions. A small amount of the blood is put aside for any of the Wassermann-type of serology. The balance is first defibrinated by shaking in a sterile autoclaved glass beaded bottle for ten minutes. It is then centrifuged under sterile precautions to throw out the red cells. The supernatant red serum, if sterile, is put in a vaccine-type of vial, and it is ready for injection in a non-allergic individual. That serum is injected intracutaneously in a non-allergic adult in areas of .05 to 0.1 c.c. The injected areas are marked by ink circles. Antibodies are transferred by this procedure and will remain present at the site of injection for some four to six weeks. When a food or inhalant is to be tested, it is done in pairs—once in a circled area for the allergic child and once lateral to it as a control. After a lapse of fifteen minutes, the local reaction (consisting of a wheal or flare or both) is com-

*Read at the annual meeting of the Medical Society of Virginia in Roanoke, October 15, 1947.

pared. If the reaction is larger in the circled area or of equal intensity in both areas, it is taken to represent a positive test for the allergic child. The more experience one has with this method, the better the results. Usually about twenty pair of tests can be done per visit. For the sake of simplicity, the non-allergic person who has the test performed on him or her is called a "human guinea pig".

The positive skin tests by the indirect or passive transfer method are interpreted like those from direct testing. Positive tests simply suggest potential offenders which might be past, present or future factors. The indirect positive tests are more apt to represent present offenders, as they are circulating antibodies which have been temporarily transferred to someone else's skin. Approximately ten per cent of allergic patients fail to have circulating antibodies. In that group positive information would not be obtainable.

Clinical significance of positive clues in the allergic patient's history and in the positive skin tests are revealed after reintroduction of forbidden foods some six or twelve months later. If he is still allergic to a food or foods, he will then have a continuation of his previous allergic symptoms or some new ones.

The indirect method of skin testing not only is extremely useful in young children, but is the method of choice in the following conditions:

For those who have abnormal skin conditions as eczema, dermographia or ichthyosis. Direct testing in this group is apt to give false skin tests.

For those who have recurrent urticaria or angioneurotic edema. This group might have a very severe or dangerous exacerbation of their allergic trouble. In addition, too many false positives occur.

For those who have constant asthma, as their skin often becomes refractory.

For economical reasons, as when no nearby physician majors in allergy. Here a railroad trip and hotel bill will prove most expensive.

For those who have needle-phobia, indirect skin testing makes it possible for any allergic patient, anywhere, whether young or old, to have the advantage of a thorough allergic study. The summary of the history, physical examination, laboratory findings, and the mailing of the prepared serum to an allergist of his choice are all that are needed. The findings and written suggestions are then forwarded to the patient's physician for his approval.

As a pediatrician who has seen the emotional upsets from direct skin testing, the indirect method is certainly the one of choice for little children.

1001 West Franklin Street.

DISCUSSION

DR. LETA J. WHITE, Petersburg: The problem presented by Dr. McGee is certainly one of the most trying, both to the doctor and to the mother.

There are two types of cases which bother us most. One is the child whose allergy is manifested by an eczema, causing great distress because of constant itching. In one such case which I had, the mother could not stand seeing her child covered with a rash and in what to her was a horrible condition. She became so depressed that she had to be hospitalized. The other type is the child who has no rash and grows and gains steadily, but cries day and night because of colicky pains in his intestinal tract, these pains being caused by various foods to which he is allergic. There are, of course, other types of allergic manifestations but these two are the most troublesome.

In my opinion, indirect skin testing is by far the best method to use in determining the cause of allergic symptoms in children.

From the standpoint of the child, he is already upset from crying day and night or being in constant discomfort from itching. To test him directly would increase his irritability and the results would be unsatisfactory because of the problem of holding him still enough to make the tests properly.

From the standpoint of the mother, who is already worn out, it is far more satisfactory to take her baby for one visit to the doctor, when the blood is taken. Then, without being further harassed by a miserable baby or trying to determine the causative factor by an elimination diet, she may find out the possible causes of all her trouble. It is undoubtedly true that many of these problems can be corrected by following the plan of an elimination diet, thus locating the causative factors. An elimination diet plan sounds simple to us, but extremely complicated to many mothers. One mother to whom I had tried repeatedly to explain it, replied in great disgust, "Yes, I know, you told me that before."

I have had many patients tested by the indirect method and have, without exception, had satisfactory results. I have never had a family who was not grateful for the help received, and not one complained of the additional cost.

In my experience, at the present time, we know of no method which is better than indirect skin testing for giving these children and their mothers the help and relief they need.

GOUT SIMULATING RHEUMATOID ARTHRITIS*

WILLIAM A. READ, M.D.,
and
RUSSELL BUXTON, M.D.,†
Newport News, Virginia.

In 1938 Ludwig, Bennett, and Bauer[1] reported a case of gout with widespread ankylosis closely simulating a severe case of rheumatoid arthritis. Their extensive review of the literature revealed that few such cases had been reported and most of these in the latter half of the nineteenth century. Comroe[2] stated that ankylosis in gout is extremely rare and usually limited to one or two joints. In Talbott's[3] large series there were two cases of gout severe enough to confine the patients to bed as permanent cripples.

It seemed worthwhile, therefore, to report a case of gout with widespread ankylosis and with many features of rheumatoid arthritis. Morever. the subsequent course of this patient suggests that, had the diagnosis of gout been made and appropriate treatment instituted, much of the present disability could have been prevented.

CASE REPORT

A. B., a white, male, 36 year old farmer, was admitted to the hospital on October 1, 1946, with a diagnosis of rheumatoid arthritis. He had been bedridden for 3½ years and was referred by the Farm Security Administration, through whom his family were purchasing their farm.

Family History: Two paternal uncles had severe rheumatism, type undetermined. His father, aged 60, alive and well, but in the past had suffered from kidney colic.

Past History: The patient's early life had been quite healthy and he was accustomed to heavy farm work. His only illness was some bronchial trouble fifteen years ago which kept him in bed about one month. He has had no major injuries. Before being crippled he drank moderate quantities of beer but no whisky. His weight was 165 pounds at the beginning of his illness. His diet was the usual one for farmers of moderate means in his district.

Present Illness: In the fall of 1934 the patient, then 24 years of age, was awakened about two o'clock in the morning with severe pain in the right great toe. The toe became red, warm, and swollen, but began to subside in 3 days. In two weeks he was back at hard work and had no more difficulty for one year. During the next 2 years there were two more attacks involving the right great toe exactly similar to the first. Three years after this onset the right ankle became red and swollen, subsided, and then the right knee was similarly involved a few months later. Four years after the onset the

I. Patient on admission when he had to be supported by orderly. The muscular wasting and fixed joints present the classical picture of rheumatoid arthritis.

wrists, hands, and right elbow, became involved. This was followed by the left ankle, left knee, and left foot, in that order. After the fourth year attacks became much more frequent and widespread and joints affected did not completely return to normal. However, between acute episodes, which lasted one to two weeks, he was up and about doing hard farm work including plowing. About 3½ years before admission he suffered an unusually se-

*Read at the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

†From the Medical and Surgical Services of Elizabeth Buxton Hospital, Newport News, Virginia.

vere attack involving all four extremities and has been confined to bed since. During these last years he continued to have acute attacks of red, hot, swollen joints which would subside in one to two weeks.

This history is certainly typical of gout. The bunion joint was involved three times before other joints were affected. But most important, the patient for many years was able to return to hard farm labor between numerous attacks of acute arthritis.

Physical Examination: The patient did not appear acutely ill but was crippled to the extent that he could turn over in bed only with the greatest difficulty. The face appeared bloated and there was an erythematous, scaly eruption on both cheeks. The tonsils had been removed six years previously because of rheumatism. The teeth were in excellent condition. There were lesions resembling tophi on the helix of both ears. The chest was emphysematous and on auscultation revealed a few coarse bronchial rales at both bases. The heart appeared normal. The blood pressure was 140/100. The abdomen was protuberant but was non-tender and no masses were felt. The prostate gland was normal in size and consistency and non-tender. The deep reflexes were difficult to elicit due to the condition of the joints. The changes in the extremities were striking. The right elbow was practically fixed in mid flexion. There was a large nodular firm mass in the region of the right olecranon bursa. The wrists were capable of only a few degrees of flexion. The metacarpo-phalangeal joints were greatly enlarged, ankylosed, and showed partial subluxation. The fingers were slender and tapering and stiff but not ankylosed. The skin of the hands was shiny, cold, and clammy. The muscles of the forearms showed marked wasting. The knee and ankle joints were greatly enlarged but no fluid could be demonstrated. The left knee could be manipulated to only 30° of full extension, the right to 10°. The right ankle had slight motion in dorsiflexion but no lateral motion. The left ankle was completely frozen. The first metatarso-phalangeal joints of both feet were greatly enlarged. The skin of the feet, like the hands, was shiny, smooth, cold, and clammy. There were marked vasomotor color changes. Atrophy of the muscles of the upper and lower leg was pronounced.

II. The gouty olecranon bursa is not very well shown here. The absence of involvement in proximal interphalangeal joints can be seen.

III. The foot is at the limit of dorsiflexion and the knee of extension. A suggestion of the marked color changes in the foot can be seen.

The enlarged thickened joints, with their size accentuated by the atrophy of the adjacent muscles, and the cold clammy extremities with atrophic skin changes, presented the classical picture of rheumatoid arthritis. In fact, the examiner, having not taken a careful early history, had entertained no other diagnosis until the large nodular mass over the right olecranon bursa literally hit him in the eye. White chalky material from this bursa and from a small tophus on the helix of the right ear (immediately found on backward search) revealed numerous typical crystals of sodium biurate.

Laboratory Data: The blood uric acid was 6.6 mgs. % on admission. This was done on whole blood and by this method anything above 4 mgs. % is definitely abnormal. Subsequently uric acid

values ranged from 8.4 mgs. % to a low of 3.5 mgs. % two months after he was first seen. Hgb. 103%. Rbc. 5,510,000. Wbc. 12,700. Differential normal. Urine showed an occasional slight trace of albumin. Blood Kahn was negative. Sedimentation rate 25 mm. per hour (Cutler). Cholesterol 180 mgs. %. BMR plus 2.

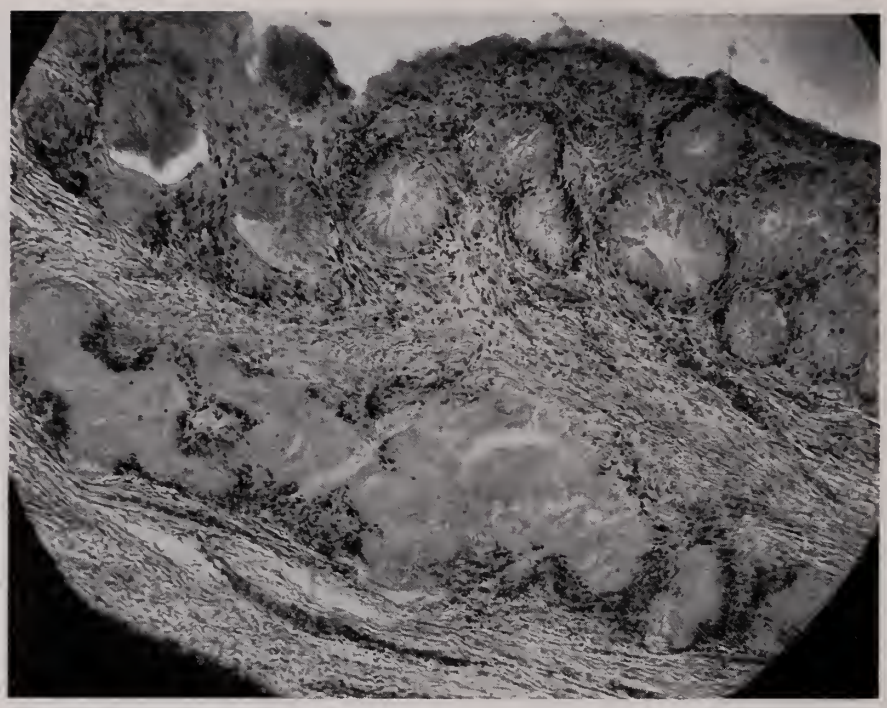
X-ray examination of the joints involved showed extensive changes. There was generalized osteoporosis of the bones of the hands. The interphalangeal joints were not extensively affected. The third metacarpal phalangeal joint of the right hand was completely destroyed and there was subluxation at this joint. There was extensive destruction of cartilage and narrowing of joint spaces of the small bones of the hands and the wrist joint. There was complete obliteration of the right elbow joint with marginal erosion of the olecranon process of the ulna. There was extensive joint destruction involving both ankles and the small bones of the feet. The tarso-metatarsal joints were practically obliterated. Both bunion joints were grossly affected and to a lesser extent the phalangeal joints of the great toes. In this situation there were numerous punched out areas. Over the right bunion joint there was a subcutaneous tophus. Both knees showed osteoporosis, narrowing of the joint spaces, and suggestive punched out areas in the subchondral bone.

IV. X-rays of the feet show the characteristic picture of gout with numerous punched out areas. There is a subcutaneous tophus overlying the right bunion joint.

V. X-ray of the right hand shows definite osteoporosis and obliteration of joint spaces between the carpal bones. There is subluxation of the 3rd metacarpophalangeal joint. This picture is superficially much like rheumatoid arthritis.

The x-ray changes in gout have been recently summarized by Rosenberg and Arens.[4] They note that osteoporosis and destruction of cartilage may at times be the only changes present and that osteoporosis develops quickly in those cases in which the joints are immobilized. Roentgenograms may then closely simulate rheumotoid arthritis. In the case reported here this is quite striking except for the views of the bunion joints, which are typical of gout. A careful history and determination of blood uric acid, especially on serum, are much more important as diagnostic aids than x-ray.

A biopsy was taken from the right olecranon bursa when it was surgically removed at his original admission. The bursa contained a large amount of amorphus material which on examination proved to be crystals of sodium biurate and cholesterol. Sections of the lining membrane showed many typical gouty tubercles. The peripheral zone is made up of urate crystals while the central portion is cholesterol. This has been shown by analysis of nodules by Garrec, Cornil and Paillas.[5] The crystals act as a foreign body and invoke an inflammatory reaction wherever they are present. The synovial membrane, joint capsule, articular cartilage,



VI. Section of Olecranon Bursa.—The gouty tubercles surrounded by inflammatory reaction are well shown. The outer ring of urate crystals and inner zone of cholesterol can be seen in several.

subchondral bone, marrow, bursa, ligaments and tendons may be involved in any combination.[6]

One year after his original admission a biopsy was taken from the synovial membrane of the left knee joint. Examination of this tissue showed no significant changes from the normal.

Treatment and Subsequent Course: The patient was placed on a low fat, moderately low purine diet, and fluids were forced. Colchicine was given to toxicity and he was then maintained on 1/120 gr. four times a day for 3 days out of each week. Sodium salicylate 80 to 120 grs. was given the remaining four days of the week. Physiotherapy, in the form of heat, passive and active motion of the joints, muscle retraining, and contrast baths, was used vigorously. The necessary surgical and orthopedic measures were carried out. He was discharged with instructions as to medication and home physiotherapy. During the ensuing year he had two attacks of acute arthrits, one involving the right elbow, the other the right knee and left ankle. Improvement has been progressive. He is now able to walk about the house without crutches and drives an automobile. The leg muscles are developing and the circulatory changes in the feet have disappeared. There is now complete range of motion in the right knee and less than 10° impairment of full extension in the left knee. Motion of the right ankle joint is now 50% of normal, but the left remains ankylosed. Improvement in the hands and wrists is less marked but he can now make a fist with both hands. The right elbow is unchanged.

DISCUSSION

There have been a few reports of gout and rheumatoid arthritis in the same individual. The evidence does not seem convincing. In the present case the history of severe recurring joint involvement with complete remission for many years is much against rheumatoid arthritis. The proximal interphalangeal joints have been spared. During a recent attack with a hot swollen right knee and left ankle there was a complete remission to the original state with full doses of colchicine. The negative biopsy of the synovia of the left knee is of course no proof either way; however, gout is known to affect any part of the joint structure indiscriminately—cartilage, capsule, ligaments and tendons, as well as synovia—while rheumatoid arthritis primarily attacks the synovial membrane.

It seemed to the authors that the marked improvement which this patient has shown over the

last year has been due to control of pain, allowing ambulation. Surgical measures combined with intensive physiotherapy were initially necessary to correct the contractures of the knees and feet. Once up, he has been kept out of bed by the liberal use of colchicine during acute episodes. The danger of prolonged immobilization in gout was clearly seen by Sydenham[7] in the middle of the 17th century. He states in part "But the principal advantage resulting from the constant use of exercise is the preventing the loss of motion in the limbs, which seizes several persons after the first or second long fit, occasioned by the contraction of the tendons of the hams and heels; for when the pain has been so violent that they have lain still a long time, not caring to stretch out their legs when it has attacked the knees, they at length lose the use of their legs and feet for the remainder of life, both during the intervals, and in the fits, which nevertheless they do not escape."

In conclusion, a case of gout is presented with multiple, severe joint involvement and many features of rheumatoid arthritis. Such cases appear to be rare and occur mainly in the younger age group. Extensive crippling deformities may be prevented in such cases by the judicious use of colchicine which will permit early ambulation and prevent the secondary effects of disuse.

BIBLIOGRAPHY

1. Ludwig, A. O., Bennett, G. A., and Bauer, W.: *Annals of Internal Medicine* **11**: No. 7, 1248-1276, 1938.
2. Comroe, B. I.: Arthritis and Allied Conditions, Lea and Febiger, 1944.
3. Talbott, J. H.: Gout, New York, The Oxford University Press, 1943.
4. Rosenberg, E. F., and Arens, R. A.: *Radiology* **49**: 169-177, 1947.
5. Garrec, L. L.: *Bull. Soc. path. exot.* **33**:211, 1940. Cornil, L., and Paillas, J. E.: *Ann. de med.* **39**: 361, 1936.
6. Sherman, M. S.: *Archives of Path.* **42**:557-563, 1946.
7. Sydenham, T.: *Med. Classics* **4**:354-397, 1939.

DISCUSSION

DR. RUSSELL BUXTON, Newport News: It has given me a great deal of pleasure to have had the opportunity of working with Dr. Read on this case, and I think he is to be congratulated not only for the good result that he has obtained in a very poor type of case to start with but also for his excellent presentation and for his persistence in working on this case.

In discussing the surgical treatment of gout it is needless to point out that surgery plays no part in the management of acute gout. In the handling of chronic cases of gout, however, surgical intervention can and should be used, as this particular case demonstrates.

First, any bursa that is uncomfortable and has become enlarged, or that has become filled with uric-acid crystals, should be removed for the relief of discomfort and to prevent ulceration. In this case the olecranon bursa was totally excised and two joint spaces were explored, without any evidence of infection. I was amazed, though, that the skin healed at all, for it was practically as thin as tissue paper at the time of removal. The absence of infection was undoubtedly due to the use of penicillin, as persons with gout ordinarily are easily infected. The possibility of severe infection always worries the surgeon in a case of gout. Also, the man did not have a flare-up of his disease following two surgical procedures, and this was due to the use of colchicine before and after operation.

The only additional surgical measures which are applicable to the treatment of chronic gout are those reparative measures which are useful in any type of chronic joint disease. In this case, at the suggestion of an orthopedic consultant, the wrists and hands were straightened under anesthesia and light plaster splints were applied. These were removed for physiotherapy as soon after the operation as the patient was comfortable. In addition, a well-padded heavy cast was applied from mid thigh to toes and split at the knee. An adjustable metal hinge was incorporated in the cast, so that the leg could gradually be extended. This has resulted in a partially functioning knee, so that this patient can now use crutches, whereas previously he was practically bedridden.

To sum up, this case shows that, if properly handled, patients with gout can be operated upon with little danger of flare-ups or infection and that proper orthopedic treatment, in conjunction with a carefully planned regime, can restore hopelessly crippled patients to a more nearly normal life.

RED CROSS BLOOD PROGRAM*

GEORGE B. DOWLING,
Rear Admiral, M.C., U.S.N. (Ret.),
Alexandria, Virginia.
Deputy Administrator, National Blood Program, American Red Cross

I feel doubly honored in being a guest of the Alexandria Medical Society—first, because Dr. Mourot suggested it, and, secondly, for several years, I was permitted a membership here.

Like a prodigal son, I have wandered over distant lands for over thirty years; now I have come home hoping to serve the community and the medical profession in accordance with the philosophy of the American Red Cross.

Our philosophy, naturally, is based on the Congressional Charter of the American National Red Cross, which charges us with:

a. Furnishing volunteer aid to sick and wounded in time of war.
b. Conforming to the international agreements of the Geneva Treaty.
c. Acting in matters of voluntary relief and in accord with the Military and Naval authorities as a medium of communication between the people of the U. S. A. and their Armed Services.
d. Continuing and carrying on a system of national and international relief in time of peace and applying the same in mitigating the sufferings caused by pestilence, famine, fire, floods and other great national calamities, and devising and carrying on measures for preventing the same.

It is the latter, the giving of oneself, one's time, of one's effort in any way possible to relieve and prevent suffering which makes for a sound democratic philosophy—a service of the people, by the people and for the people.

There is no theology on which all men agree—any more than there is one international flag to which all men will pledge their allegiance; but there is one ideal that is common to all men of good will—humanitarianism—and that ideal is represented in the one banner under which all men may serve without doing violence to their patriotism or their loyalties—national, religious, racial—the banner of the Red Cross, which symbolizes good will, humanity, respect of all who behold it wherever it flies.

It was this philosophy which promoted the Board of Governors to accept the challenge of a National Blood Program which will furnish a continuous supply of blood, sufficient in quantity to meet the hazards of peace and provide for the impact of national emergencies.

The program was first announced on June 12, 1947, by the Board of Governors and the kick-off occurred on January 12, 1948, at Rochester, New York, when our first regional blood center was established. The ball was picked up at Wichita, Kansas, on the 16th, carried further by Stockton, California, on February 2nd, and a first down was made at Atlanta, Georgia, on the 17th of February.

We hope to establish some fifty centers and their supporting mobile units during the fiscal year of 1948-49, but it will take from 3 to 5 years to reach our goal of several hundred centers supported by six to eight hundred mobile units.

The nation-wide series of regional centers will be strategically located with the view to the most effective procurement and distribution of blood to meet national needs on the community levels.

Experience tables indicate that we need five pints of blood per general hospital bed per year plus one pint per tuberculosis and neuropsychiatric bed per year. In accordance with these criteria the national need is approximately 3,700,000 pints of blood per annum,—3 million for civilian, and 700,000 pints for the Veterans, military and other governmental hospitals.

In order to better understand why the Red Cross has undertaken this program, one needs to review the history of our previous participation in this field of activity.

Back in the middle 1930's, a young physician in Georgia became greatly concerned over the high death rate from hemorrhage among mothers following childbirth. He knew that whole blood for immediate transfusion was the best possible treatment, but where to get enough blood to supply the needs of the community was a serious problem. Then he

*Read before the Alexandria Medical Society, March 11, 1948.

thought of his local Red Cross chapter. Could the chapter do anything to help him—and the scores of expectant mothers whose lives might be in jeopardy? The chapter could and did do something. It began to recruit voluntary donors to supply blood, without charge for the product, to the doctors and hospitals in the city of Augusta, Georgia.

A gradual and progressive establishment of blood donor programs was well under way shortly before the beginning of the recent war. The history of the Red Cross participation throughout the war is well known to you—you participated in it. However, I should like to re-emphasize the fact that it was a cooperative venture shared by the armed forces, the Red Cross and the medical profession, guided by the National Research Council. Its purpose was to supply the military forces, initially plasma, then serum albumin, and, finally, whole blood. With the cessation of hostilities in Europe several of our blood donor centers were closed, and shortly after the surrender of Japan, the rest were discontinued.

Through shipments to the far reaches of the world, our wartime program saved thousands of lives and speeded the healing of other thousands who suffered injuries.

Now we are faced with a proposition equally significant for the American people. Can that same fine record of life-saving and healing be duplicated for all our people in time of peace?

We say it can.

We have good reason for confidence because of the successes achieved by a number of chapters which, at the close of the war, took advantage of the permissive policy approved by the central committee of the Red Cross for chapters to cooperate in local programs to serve their communities and states. However, it was soon evident that development through the initiative of individual states and communities would be slow, and that, further, the supplies of surplus wartime plasma and immune serum globulin that had been made available to the people of the nation by the American Red Cross would soon be exhausted. Accordingly, in response to a growing demand from the medical profession and laymen alike, the American Red Cross announced on June 12, 1947, the inauguration of a National Blood Program—"to provide blood and blood derivatives, without charge for the products, to all those who might need them".

The decision was not reached without carefully weighing the great need for blood and the ability of the Red Cross to obtain sufficient voluntary donors and to finance a project of this size and importance.

We had the good fortune to be counseled by the leading medical and health authorities of the nation, who have recommended that the Red Cross undertake this far-reaching service.

It was they, in large part, who demonstrated the need we are now asked to meet. Research in blood, developed during and since World War II, has led the medical profession to discover an increasing number of uses both for whole blood and for the blood fractions that are among the most significant new advances in modern medical practice.

Let's pause here and review some of the uses of each.

I have mentioned the dramatic results attained on the battle-field by the use of whole blood and plasma. Whether ministered to in a foxhole, an aid station, or in a hospital, you, your loved ones were given an added chance for life not possible in the wars of the past. This life-sparing fluid contributed much to the brilliant record military medicine achieved on the field of battle.

But—we are now at peace. How can that war record be applied to everyday life?

The Cocoanut Grove fire in Boston, the Wyncoff fire in Atlanta, Georgia; the Texas City disaster, and the Florida hurricane are still fresh in the memories of many at this luncheon. Shock, burns, hemorrhage, wherever, whenever and however produced, call for blood, plasma or serum albumin immediately and in sufficient quantities to tide the patient through until his own defenses can be mobilized.

Modern life with the constant hazards from our rapid means of transportation, yours and my child run down by an automobile, Bill Jones and his wife in an airplane crackup, a factory fire, an explosion in one of our new atomic research laboratories, a hurricane, or even a fall in the bathtub may be responsible for shock or hemorrhage.

But the need is not limited to traumatic surgery. Blood is now used as supportive treatment before, during and after surgery. I mentioned the hemorrhages of childbirth— they cover the anemias, the severe infections, the hypoproteinemias of disease and starvation.

We could go on for hours in discussing whole blood, but we must not forget the blood derivatives or fractions.

Like many of you, I, too, asked the question as to what is a fraction and, with your permission, I should like to review a little of the lessons learned from research.

As I previously mentioned, the wartime program was a co-operative project between the armed forces, the Red Cross and the medical profession under the guidance of the National Research Council. This group initially made plasma available for the armed forces so that even at Pearl Harbor, every ship, aid station and hospital had a stock on hand. This product is the liquid part of blood—dried for preservation and available for reconstitution when needed. The solid part of blood is primarily composed of cells, principally the red cells, and constitutes about 45% of the volume—the plasma about 55%.

About 7% of the plasma is a protein—in which are found many important elements.

Our Research Council, together with the Office of Scientific Research and Development, began an immediate investigation of whole blood, plasma and the solid parts. The whole blood, for which there is no substitute, was most important to military medicine, but—unless the red cells could be kept alive to perform their vital part—its use was limited. In Massachusetts, at Harvard, under Doctors Cohn, Janeway, Diamond, John Gibson and others, many of the brilliant scientific advances were made. Here we were able to determine the life of the red cell and study the new preservatives. The life of the red cell in man is from 80 to 120 days, but, when war broke, we could only preserve it in our blood banks for several days—too short a period for anything but local use. But the battle-front was thousands of miles away. In brief, new preservatives were developed and one—our present sod. citrate, citric acid, dextrose (ACD) solution—was found to expand the life of the cell in storage for from 21 to 30 days. This was determined by the employment of nuclear research. Iron in the forms used for the treatment of anemia has an affinity for young developing red cells. So, Dr. Gibson and others made iron—iron ammonium citrate radio active. Volunteer donors were given this radioactive material either by mouth or injection, and, in turn, this radioactive iron attached itself to (tagged) the new young red cells of the donor. After sufficient cells were tagged as determined by a Geiger counter, blood was withdrawn from the donor into a regular donor set. It was then placed in the prospective pipe-line of supplies under the proposed conditions found necessary and flown via Washington, San Francisco, Hawaii, to Guam—and then returned in the same way to Boston. Here the blood was injected into recipients and again studied. Thus we learned that 85 to 90% of red cells, when stored in ACD under proper conditions will survive. Now we were ready to fly blood to the four corners of the earth and be assured that the battle casualties were getting living red cells in the transfused blood.

During the early phases of the battle of the Pacific shipping space was critical. Plasma took up room needed for munitions of war. How could we conserve space? Again the Harvard Group—this time under Dr. Cohn—put its scientific knowledge behind the problem. Plasma was studied to determine how it may be broken down into component parts, knowing that—if practical means could be developed—serum albumin could be substituted for plasma for the treatment of shock and that it was 5 times as efficacious in maintaining the fluid balance in the blood vessels as was plasma. By an ingenious method, this group developed means of breaking down the protein of plasma into five primary parts—fractions. Special studies showed that the plasma protein is composed of some 60 recognized component parts—found distributed in these 5 fractions. This breakdown, or fractionation, though requiring great skill, can be described in somewhat simple terms. There are five variables used, namely: temperature, alcohol concentration, salt concentration, degree of acidity or alkalinity, and the concentration of the proteins in the solution. With a certain set of these variables, a flocculent material separates from the liquid and when separated constitutes a fraction—let's call it fraction I. The remaining fluid is subjected to another set of variables with a second separation of a flocculent material. This constitutes fraction II. The process is repeated and we are able to get five fundamental fractions—each of which has properties peculiar to itself. From one of these fractions comes fibrin—important in blood clotting; from another the immune serum globulin we use in the modification and treatment of measles. From fraction five we get the serum albumin—a protein considered more effective in shock than an equal quantity of plasma.

The day by day prevention of death and relief

of suffering in cases of accident and disease, as well as gearing ourselves to meet disaster, is our mission.

To accomplish this, Dr. Ross T. McIntire, wartime Surgeon General of the Navy, was selected as the administrator. He has unique qualifications for the task because not only did he gear the peacetime Naval medical service to its war tasks, but he was intimately associated with the war time blood program.

The immediate direction and supervision of the blood program in the chapters and the regional blood centers and their mobile units rest in the area offices; the general over-all direction and supervision in national headquarters.

To insure the maintenance of uniform technical standards in so important a program, those standards and professional techniques are set by the Committee on Blood and Blood Derivatives of our advisory board on Health Services. Further, all technical and professional personnel are paid by the national organization.

At a community level, a blood center is set up by a chapter in a large city. From this fixed center, mobile units visit outlying chapters which provide facilities for the procurement of blood in their communities and are known as cooperating chapters.

A blood center is established only after thorough investigation has shown that: (a) there is need for blood; (b) facilities for supporting the program are adequate, and (c) the principles and policies of the program are approved by the *local medical society,* the *health department* and the hospital organization.

When the above criteria have been fulfilled, and the attitude of fixed and cooperating chapters is satisfactory, steps are taken to place the center in actual operation.

First is the appointment of the Blood Program Committee composed of key personnel from the various chapter services and representatives of the medical society, health department, and the hospitals. In addition to this committee for the fixed center, each of the cooperating chapters develops a similar Blood Program Committee for mobile units.

Then comes the Coordinating Committee, composed of one member from each of the Blood Program Committees of all the chapters participating in the program. This committee maintains liaison with the fixed center Blood Program Committee through its member from the fixed center chapter.

Next is the Medical Advisory Committee for the fixed center chapter and the cooperating chapters. In each instance the committee will be composed of medical men recommended by the local medical society. The chairman of the committee will serve as a member of the chapter's Blood Program Committee. This committee will survey the hospitals to be served and will assist the Blood Program Committee in arranging for their participation. Further, in the fixed center chapter, the committee will recommend the physician in charge (technical director) and after his appointment will advise him on the technical operation of the center, subject to the technical standards and procedures prescribed by the national organization.

Other committees that will work closely with the Blood Program Committee are those on Volunteer Services and Public Information. There will be a Donor Recruitment Subcommittee of the Blood Program Committee.

Having organized the committees, acquired and prepared the suitable space for the center, selected and trained the personnel, and procured supplies and equipment. the chapter and the national organization are ready to begin operations.

The local committee of practicing physicians will thus, have constant supervisory control of the activities of the local Red Cross blood program, including the distribution of blood to the hospitals.

I should like to repeat—it is not our plan to interfere with existing blood bank facilities, whether these are of the private, non-profit variety or of individual hospitals. Rather, it will supplement these facilities and support them on request.

As for the Red Cross policy of distributing blood and blood derivatives without charge for the product, this in no way interferes with the current policy of physicians and hospitals making a service charge for administering blood, such charge to cover the check typing of the donor's blood and the recipient's blood, the cross-matching, the equipment for the recipient, etc.

And to you physicians, our technical staff has emphasized the philosophy of the bottle of blood —to wit:

It is absolutely essential that all persons associated with the blood program, from the blood custodian to the technical director, have the attitude

that each blood donation must be so handled that it would be completely acceptable for the transfusion to be given to the individual himself or herself. In other words, the donor should be selected with the greatest care, and every regulation both for his protection and that of the blood should be rigidly followed. Blood should be so stored and handled that minimum deterioration will occur. Finally, all precautions should be taken before injecting it into the recipient so that only benefit and absolutely no harm can result.

If this is kept in mind every time a donor is seen and a donation is obtained, each bottle of blood can be declared fit for personal use and "guaranteed" to be the best therapeutic agent obtainable for those specific indications for which it must be used.

I have thus reviewed the philosophy, the purposes and our method of implementing your National Blood Program—designed to make available to the patient, through you, one of the most important medicaments known to man.

44 Woodmont Road (Belle Haven).

Schering Announces New Research Grants.

Five new research studies in the field of hormone therapy, x-ray diagnostics and allergy, instituted under grants from Schering Corporation, of Bloomfield, N. J., have been announced. These grants in support of studies at four Eastern and one Western medical institutions are a part of the expanding program of Schering's research.

An unusual study on encephalography in allergic children, and the effect in this condition of Trimeton, Schering's new antihistaminic, will be pursued at the New York Post-Graduate Hospital. The research will be under the direction of Dr. Robert Chobot, attending physician in allergy.

Companion studies on the utilization and absorption of the female sex hormones, progesterone, estradiol and estradiol benzoate, by routes other than injection will be studied at Cornell University Medical College and New York Medical College. Progesterone, the hormone of pregnancy, will be studied at Cornell under the direction of Dr. Ephraim Shorr, associate professor of medicine. Dr. Thomas H. McGavack, professor of clinical medicine and director of the Metropolitan Hospital Research Unit, will supervise the studies on estradiol and estradiol benzoate at New York Medical College.

At Yale University's School of Medicine, New Haven, Connecticut, the metabolism, absorption and excretion of the gall bladder diagnostic agent, Priodax, and of related compounds will be studied under the direction of Dr. William T. Salter, professor of pharmacology.

Dr. Robert H. Williams, professor of medicine and chairman of the department of medicine at the University of Washington School of Medicine, Seattle, will supervise studies on the effect of the male hormone preparations of testosterone in thyrotoxicosis, Addison's disease and Cushing's disease.

FOREIGN BODIES IN THE GASTRO-INTESTINAL TRACT*

ROBERT LEE PAYNE, JR., M.D.,
Norfolk, Virginia.

Foreign bodies in the gastro-intestinal tract of children are far from unusual. It is well known that children often swallow small objects which they are prone to put in their mouths. Almost any conceivable object of appropriate size has been swallowed by children. Common offenders are buttons, nails, straight pins, safety pins both open and closed, tacks, marbles, coins up to the size of a quarter, beads, rings, bobby pins, keys, nuts, bolts and screws. The great majority pass through the alimentary canal with no symptoms.

The recent occurrence of two cases, almost identical in nature, in which a bobby pin was swallowed, and in which surgical removal was necessary, has prompted a review of the literature on this matter. The discussion here is limited to foreign bodies which reach the stomach; above this level the problem is entirely one for the endoscopist.

The largest series of cases has been reported by Ladd and Gross of The Children's Hospital, in Boston. They report a series of 337 cases. The most common age incidence is from six months to four years. In this large series, operation was necessary in only fourteen of the patients, the remainder passing the foreign body in the stool.

In general, conservative treatment is all that is required. This is particularly true of objects which are not sharp or pointed and in which there is little likelihood of damage to the gastro-intestinal tract. Most of the foreign bodies which are swallowed by children are opaque to x-ray, and these examinations are of value in locating the foreign body exactly. They are also of value in following the progress through the gastro-intestinal canal. Usually a flat plate or fluoroscopic examination is satisfactory.

Conservative treatment consists only of continuing the child's normal diet. Active catharsis should be avoided. It is felt that this may contribute to the possibility of perforation by increasing peristalsis. A diet consisting chiefly of bread and potatoes is of no value. Mineral oil should be used to combat constipation. The age of the child should not of itself be considered any indication for abandoning conservative treatment, as the size of the child apparently has very little to do with the size of a foreign body which can be passed. It is interesting that cases have been reported of a bobby pin passing spontaneously in one child aged four months and in another aged six months. Passage of safety pins, both open and closed, have been reported in children under one year of age. The stools of the child should be carefully watched.

Conservative treatment should not be abandoned unless a sharp and potentially dangerous foreign body becomes lodged in one place for more than three or four days. However, each case must be judged individually and carefully watched for signs of perforation if the foreign body is sharp. In the series of fourteen operated cases mentioned by Ladd and Gross, lodgment of the foreign body occurred in the stomach or duodenum in all but one. All objects which passed this level were ultimately passed in the stool without difficulty, with the exception of one child in whom there was a stenosis of the jejunum. In the report of Donovan there are two cases in which perforation of a Meckel's diverticulum by a foreign body occurred.

Surgical removal is recommended if conservative treatment fails. Gastroscopy is generally considered to be a more hazardous procedure in a child than is surgical removal.

A few recent cases have been reported in which metalec foreign bodies have been removed from the stomach by means of a magnet. Report of a nail removed from the duodenum was recently published by Equen, *et al.* In this case a small magnet tied to a string was swallowed, allowed to attach itself to the nail and this was then removed without difficulty. More complete reports on this type of removal have been written by Silber and Epstein, who concluded that the simple passing of a magnet attached to a string is not without hazard. There is danger that the foreign body will become detached from the magnet and become lodged in a more inaccessible place than was at first the case. Pas-

*Read before the annual meeting of the Seaboard Medical Association of Virginia and North Carolina, at Virginia Beach, December 2-4, 1947.

sage into the trachea and bronchi is possible. Silber and Epstein recommend that a magnet be used which can be withdrawn into a sheath, and which will thus protect the foreign body in its removal. They reported two cases in which a bobby pin and a paper clip were removed from the stomach in this manner. This method seems promising and possibly will become the method of choice in the future.

The following two cases are reported in summary and indicate the relative simplicity of the operative treatment.

Case 1: L. W., white girl, aged two years. This child had swallowed a bobby pin eight days before operation. X-rays had been taken every forty-eight hours and there had been no change in position. The pin was lodged in the lower portion of the stomach. The abdomen was opened through a small left rectus incision; an opening was made on the anterior wall of the stomach, the pin was located and easily removed. Post-operative care consisted of fluids which were given both subcutaneously and by rectum. A small catheter was placed in the stomach through the nose and was allowed to drain without suction for twenty-four hours. The child made an entirely uneventful convalescence and was discharged from the hospital on the sixth post-operative day.

Case 2: C. S., white girl aged three years. This child had swallowed a bobby pin four days before surgery. The pin was lodged in the second part of the duodenum. The possibility of perforation was feared and surgical removal was considered to be indicated. The abdomen was opened through a right rectus incision. An opening was made in the anterior wall of the stomach, a clamp was introduced into the duodenum and the bobby pin was removed. The pin was found to be firmly fixed in the duodenum and it does not seem possible that it could have passed. Post-operative care was similar to the first case except that a stomach tube was not used in this patient. The child made an uneventful recovery and was discharged from the hospital on the fourth post-operative day.

REFERENCES

Donovan, E. J.: Meckel's Diverticulum Perforated by Foreign Body. *Ann. Surg.* **106**:953, 1937.

Equen, M.: Magnetic Removal of Foreign Bodies from the Food and Air Passages under Fluoroscopic Guidance. *Southern Med. J.* **38**:245, 1945.

Equen, M., Gilliam, R., and Lineback, M.: Nail in Duodenum. *J.A.M.A.* **135**:432, 1947.

Johnson, C. I., and Ferguson, C. F.: Foreign Bodies in the Air and Food Passages. *New England J. Med.* **215**:1054, 1936.

Ladd, W. E., and Gross, R. E.: Abdominal Surgery of Infancy and Childhood. Philadelphia: W. B. Saunders Co., 1941.

Lance, U. L.: The Management of Foreign Bodies in the Air and Food Passages. *West Virginia Med. J.* **41**: 185, 1945.

Silber, S., and Epstein, B. S.: The Peroral Removal of Certain Swallowed Foreign Bodies Without Endoscopy. *New York State J. Med.* **47**:1122, 1947.

Storck, A., Rothschild, J. E., and Ochsner, A.: Intestinal Obstruction Due to Intraluminal Foreign Bodies. *Ann. Surg.* **109**:844, 1939.

805 Medical Arts Building.

Compare Figures On Medical Students.

The September 4th issue of the *A. M. A. Journal* publishes some very interesting figures on medical education.

During the past year, for example, there were 22,739 students in 77 medical schools in the United States, 5,543 of whom completed the course and graduated. The same number of schools graduated 4,895 students in 1933.

It is interesting to note that in 1905, prior to the housecleaning in medical education, there were 160 schools, but the annual graduation produced only 5,606 physicians.

VARIED ALLERGIC REACTIONS TO PENICILLIN*

JAMES B. BLACK, JR., M.D.,
J. WARRICK THOMAS, M.D.,
W. RANDOLPH GRAHAM, M.D.,
and
DUPONT GUERRY, III, M.D.,
Richmond, Virginia.

The purpose of this communication is to summarize partially the current literature on penicillin reactions, to discuss the observations of others in terms of our experience, and to discuss several points of practical importance pertaining thereto. It is, of course, common knowledge that penicillin as used clinically in its several types and preparations is as safe as any first-class drug in use today, and we do not wish to create the impression that it is otherwise. Troublesome reactions of various types do, however, occur, and it is felt that some discussion of the facts relative thereto is pertinent.

The literature on penicillin contains a number of reports of various types of reactions which may be grouped as follows:

1. Urticarial reactions.
2. Vesiculo-bullous, papular, and erythemato-vesicular lesions, with and without desquamation.
3. Contact dermatitis.
4. Serum sickness reaction.
5. Stomatitis, glossitis, and pharyngitis occurring after the use of penicillin pastilles and penicillin solutions in the mouth.
6. Ocular reactions, involving principally the conjunctivae and the palpebral skin, following the local use of penicillin.
7. Asthma associated with giant urticaria and fever in a non-asthmatic.
8. Severe immediate angioneurotic edema.
9. Cutaneous purpura, associated with urticaria, leukocytosis and arthralgia, and gastro-intestinal purpura with swelling of the joints and subcutaneous tissues and a toxic nephritis.
10. Sterile abscesses occurring repeatedly in the sites of intramuscular injections of saline solutions of penicillin.
11. Transient toxic reactions including headache, febrile reactions, nausea, vomiting and diarrhea—attributed to pyrogenic impurities.
12. Questionable reactions including erythema nodosum and syncope.

Upon reviewing the records of allergic persons seen by us during the past several years, eleven cases were found who had exhibited interesting reactions following penicillin therapy. These individuals had been diagnosed prior to their development of untoward penicillin reactions as having variously:

(A) Perennial rhinitis and perennial asthma, 4 cases.
(B) Perennial rhinitis and gastro-intestinal allergy, 1 case.
(C) Perennial rhinitis and epidermophytid reaction, 1 case.
(D) Contact dermatitis, 2 cases.
(E) Epidermophytosis with epidermophytid reaction, 2 cases.
(F) Seasonal hay fever, fall type, 1 case.

Three patients with perennial rhinitis developed acute exacerbations of their rhinitis after they had taken penicillin by various routes. A patient with rhinitis and asthma had a flare-up of both after penicillin therapy. An individual with rhinitis and gastro-intestinal allergy developed an exfoliative dermatitis after penicillin. A second patient with rhinitis and asthma developed a serum sickness type of reaction, as did a patient who had been under treatment for seasonal hay fever. One individual with epidermophytosis and associated "id" reaction exhibited a contact dermatitis following the use of a penicillin ointment; another, however, developed a serum sickness reaction. Two individuals with contact dermatitis manifested exacerbations of their dermatitides following application of penicillin to their skin lesions. One of them subsequently developed severe urticaria and angioneurotic edema when a preparation containing peni-

*Read at the annual meeting of the Medical Society of Virginia in Roanoke, October 13-15, 1947.

cillin was packed in a tooth socket. Various preparations of penicillin were administered and by several routes. The number of patients who reacted adversely is too small, the reactions to the drug were too varied, and the types of preparations too numerous to permit any correlation between the type of allergic disease and the nature of the penicillin reaction. Our observations do not, however, indicate that there is any close relationship between the two.

Disregarding minor urticarial reactions, the cases mentioned above represent most of the reactions observed or known to have occurred in a considerable population of allergic individuals. Many of the allergy patients indicated in their histories that they had had penicillin for various nonallergic ailments such as pneumonia, focal infections, etc., without unfavorable side reactions. Some of them, to be certain, had experienced transient urticarial reactions. The majority, however, had not experienced adverse reactions. Follow-up reports from the allergy patients also provide no evidence of an unusual incidence of untoward side effects.

Let us consider briefly the problem of penicillin reactions as encountered in Naval personnel who may be presumed to have been relatively non-allergic. One of us was privileged to observe the wholesale use of penicillin in two large Naval hospitals. One of these institutions with 2600 beds was located at a Naval training center in which streptococcal diseases were epidemic. Most of the patients admitted to this hospital had streptococcal diseases and were given intramuscular penicillin in doses of 20,000 units every three hours. A considerable percentage of the patients received multiple courses of the drug. Furthermore, these patients represented a selected non-allergic group, for men who were found to have significant allergic disorders were excluded from the Naval service. Penicillin reactions did, however, occur, and, although no figures are available, are estimated to have occurred in about five per cent of those treated with penicillin. The experience at the second hospital, a center for the treatment of rheumatic fever, was similar. The composite experience of the medical officers, using tremendous quantities of penicillin, in both Naval hospitals was that penicillin is a safe drug. Occasionally therapy had to be discontinued. On the other hand, treatment was frequently continued in seriously ill patients despite mild reactions, and the drug was readministered to reactors. No alarming or lasting ill effects from such measures can be recalled. Reactions were considered as annoyances rather than as occurrences of significant import.

With these observations in mind, it is reasonable to assume that the incidence of penicillin reactions among allergic individuals is not significantly greater, if greater at all, than it is in individuals without previously recognized allergies. It is noteworthy that the reactions observed in the allergic individuals were not more frequent and were in no wise different from, or more severe than, similar reactions observed, or reported as occuring, in a non-allergic population. It is noteworthy that reactions cannot be predicted in allergic individuals as regards frequency, type and severity, with more success than they can be foretold in the public at large or in a non-allergic group.

General Discussion

Exact figures representing the incidence of penicillin reactions of various types are hard to find, and the figures reported by various observers are not strictly comparable because of variations in clinical material and therapeutic methods. Cormia[1] and associates reported an over-all incidence of 0.5 per cent in 2,000 soldiers receiving prolonged penicillin therapy, whereas Newman[2] has estimated it to be about 30 per cent in dermatological cases treated locally. Anderson's[3] estimate of a 2 to 5 per cent incidence is probably a fair over-all figure.

Urticaria occurred in 3.8 per cent of 130 patients treated with oral penicillin.[4]

Kolodny and Denhoff[5] showed rather conclusively that patients with dermatological conditions exhibit immediate reactions much more frequently after I. M. penicillin than do non-dermatological patients. They showed that the increased reaction rate in dermatological patients is due to an increase in the immediate types of reaction only. Twenty-five per cent of 73 dermatological patients developed immediate reactions to penicillin; whereas, only 6 per cent of 51 non dermatological patients developed immediate reactions. The incidence of delayed reactions was the same in both the dermatologic and non-dermatologic groups and was approximately 7 per cent. Newman's[2] estimate of a 30 per cent incidence is predicated on observations made on dematologic patients treated topically with penicillin. His comment that the incidence in pa-

tients of this type does not mean much because "100 per cent will develop contact dermatitis in time" is interesting. He concluded, however, that individuals with an allergic constitution plus a dermatitis develop contact dermatitis to penicillin preparations more quickly than do normal individuals. Noe's[6] report of a 16 per cent incidence of allergic edema of the eyelids after topical penicillin is in agreement.

Pillsbury[7] and associates have suggested that the incidence of penicillin reactions following intramuscular medication may be on the increase. This observation is of interest since one frequently reads that as penicillin preparations become purer, reactions will become less. Theoretically the increased incidence could be a result of the use of larger doses of penicillin for longer periods of time or to the fact that more individuals have been previously sensitized to penicillin.

Three of our patients with a dermatophytid type of dermatitis became worse after the local use of penicillin ointment. The observed exacerbations may have represented no more than a contact dermatitis to some ingredient in the penicillin vehicles. However, the experience of others has been that eruptions occur most frequently in the sites of previous fungus infection and that they do so following parenteral as well as after topical therapy, which suggests hypersensitivity of the previously infected skin.

One of us treated a chalazion with penicillin ointment. A severe local reaction necessitated discontinuation of the therapy. At a subsequent date, because of a threatened generalized Meibomianitis, intramuscular therapy was instituted. The patient did not develop any local reaction in his eye following the intramuscular therapy.

The above observation, considered in conjunction with Kolodny and Denhoff[5] and Newman's[2] observation of an increased skin sensitivity to penicillin in sites previously infected with fungi, suggests that a fungus infection effects in some way a more profound and lasting sensitivity in the involved skin than does short-term topical penicillin therapy. The results of intradermal skin tests in patients with previous fungus disease also indicate that an antigen may be elaborated by pathogenic fungi which sensitizes the skin to penicillin.

Kolodny and Denhoff[5] were unable to correlate personal past histories and family histories of allergy with the incidence of reactions observed in their 124 patients. Our experience confirms theirs, for, although all of our patients gave personal past histories of allergic disorders and most of them gave positive family histories, no relationship was apparent except possibly in the case of those individuals with epidermophytosis and epidermophytid reactions discussed above.

The importance of previous penicillin therapy in the genesis of undesirable side reactions incident to a second administration of the drug is not well established. Some individuals manifest reactions after taking the drug for the first time. Others develop these reactions when the drug is readministered. Some individuals react every time that penicillin is given to them irrespective of the type of preparation or route of administration. Others who react on one occasion find that they can take penicillin subsequently with impunity provided that a different preparation is used. Still other individuals are able to take the same preparation subsequent to a reaction without untoward effects. In their studies, Kolodny and Denhoff[5] were unable to correlate previous penicillin therapy and reactions referable to it to the incidence of reactions at the time they made their experimental observations. Our experience with Naval personnel, with allergy patients, and with ophthalmological patients leads us to believe that the exhibition of an untoward reaction on one occasion is no contraindication to subsequent therapy with penicillin if judgment is used.

The purity of the penicillin preparation employed and the vehicle used are of great significance as regards the genesis of reactions, when the route of administration is the same. Sterile abscesses occur more frequently, as might be expected, after penicillin-beeswax-peanut oil than after saline solutions of penicillin taken intramuscularly. Such reactions are not allergic reactions to penicillin, in most instances, but are foreign body reactions. Individuals who are allergic to pollens, which occur in beeswax, and to peanuts are, however, subjected to a double or triple hazard when penicillin-beeswax-peanut oil preparations are used, by reason of the presence of the additional allergens. Consequently, it might be anticipated that allergic reactions would result from beeswax peanut oil preparations more frequently than from simpler preparations.

On the other hand transient gastro-intestinal

disturbances, headache, fever, and malaise would be expected to occur more frequently following parenteral administration of penicillin preparations containing pyrogenic substances than after their ingestion or topical use. Reactions of this type are not specifically related to the penicillin itself but are dependent on the pyrogens present and the route of administration. It has also been amply demonstrated that impurities in the penicillin itself are responsible for many of the untoward allergic reactions observed.[8]

The magnitude of the dose of penicillin administered has, within our experience, been of no moment in the genesis of untoward reactions. It is, of course, understood that if noxious impurities are present which are capable of causing reactions by non-allergic means, then the greater the dose of the preparation, the greater the danger. Reactions of this type are physiological and predictable, whereas allergic reactions occur independent of the size of the dose, and are unpredictable. The recent tendency to use larger and larger doses of penicillin as the supply has become more plentiful, with no appreciable increase in the incidence of allergic side reactions, indicates that the quantity of penicillin, per se, is a relatively unimportant factor in the genesis of penicillin reactions. The concomitant improvement in the quality of the penicillin may, to some extent, explain the fact that reactions have not been seen with increasing frequency.

The literature contains a number of references to penicillin skin tests. Patch tests, scratch tests, and intradermal tests have been used. The lack of a standardized procedure makes interpretation of the results uncertain. Kolodny and Denhoff[5] tested representative groups of individuals who had reacted adversely to penicillin and patients who had not reacted. They found that for intradermal testing, 1,000 to 2,000 units per 0.1 cc. solution were necessary to elicit relatively consistent responses. Of the 15 penicillin reactors tested by them, 11 developed unequivocally positive intradermal skin tests to penicillin. Of 14 nonreactors, similarly tested, only two were positive. Peck and associates,[9] using a similar technique, found the skin tests to be positive in a penicillin reactor. The response to the skin tests subsequently became negative after the patient was desensitized. Various observers, including Schultz,[10] Vickers,[11] Satulsky,[12] and Kolodny and Denhoff[5] have reported positive skin tests in individuals who had experienced various types of penicillin reactions.

On the other hand, Haswell and Wilkinson[13] and others have reported negative patch, scratch, and intradermal tests in patients who had had reactions. The patient of Barefoot and Olansky[14] reacted on two occasions to amorphous penicillin and did not subsequently react when he was treated with crystalline penicillin. Intradermal tests made subsequently were positive to amorphous penicillin and negative to crystalline penicillin. Sullens'[15] case gave a negative response to an intradermal skin test but developed an urticarial reaction higher up on the same arm five hours later. Cormia et al[1] consider skin tests of limited value because they observed that severe reactors frequently showed the same results on skin testing as did nonreacting controls. The remark of Pillsbury et al,[7] "skin tests are unreliable in predicting the occurrence of reactions" epitomizes the situation very well.

Our experience with penicillin skin tests has been limited. It has been observed, however, that patients who exhibit a strongly positive response after patch testing with penicillin ointment get into trouble when penicillin ointments are used therapeutically. In the light of the observations cited above, it would appear that penicillin skin tests are of limited value in enabling one to pick up the occasional severe reactor prior to the institution of penicillin therapy.

Yasuna[16] recently reported two cases of "nonspecific" uveitis who experienced an aggravation of their disease following penicillin therapy. One of us has had a similar experience with two individuals. It would appear that the reaction is somewhat analogous to the Herxheimer reaction. This observation is of considerable importance as it is common practice to treat uveitis with parenteral penicillin. In view of this experience it would appear that penicillin should not be used in the treatment of uveitis except when a syphilitic or gonorrheal etiology is definitely established.

THERAPY

As it is impossible to predict which penicillin-treated individuals will develop reactions, physicians will continue to be confronted with problems related to their avoidance, prevention, and management. The advent on the market of more highly purified penicillin preparations and their general

acceptance may in time materially reduce the incidence of adverse reactions. It is probable, however, that reactions will continue to be a source of annoyance.

When penicillin therapy is indicated, the only precaution necessary to provide a reasonable margin of safety is the assurance that the patient has not previously experienced a severe reaction. When the patient is a known reactor, judgment and caution consistent with the known facts should be exercised.

The anti-histaminic drugs have proved their worth in the control of untoward penicillin reactions. They are particularly efficacious in the management of post-penicillin urticarial reactions and can be used without hesitancy for this purpose. Pyribenzamine and Benadryl are both excellent preparations. If it is necessary to administer penicillin to a known reactor, prophylactic therapy with the selected anti-histaminic drug can be instituted shortly before or concurrent with penicillin therapy. Severe immediate reactions, when anticipated, can be held to a minimum in this way. Once untoward penicillin effects have made their appearance, an anti-histaminic drug can be used in most instances with quite satisfactory results. As the relief of symptoms afforded by Pyribenzamine and Benadryl is impermanent, anti-histaminic therapy must be continued throughout the duration of the reaction. One to five hundred milligrams of either drug per day in divided doses is usually sufficient to make patients with urticaria comfortable. When the relief is incomplete, local therapy with ice bags, antipruritic lotions, starch baths, etc., may be helpful.

When the reaction is severe and the anti-histaminic drugs do not afford relief, it may, on occasion, be necessary to discontinue penicillin. If, however, the need for the drug continues urgent, the use of crystalline penicillin, the substitution of a different brand or a different lot of the same brand of penicillin, or administration of the drug by another route may make it possible to continue therapy. Alterations in the therapeutic regimen of this kind often give gratifying results and certainly warrant a trial.

Adrenalin and ephedrine are at times useful in controlling untoward reactions. As the action of these drugs is relatively short, they are usually not as satisfactory as the anti-histaminic drugs. Nevertheless, they not infrequently provide rapid, and at times complete relief. Their use in conjunction with the anti-histaminic drugs may occasionally render an intolerable reaction tolerable.

Within the past several years, intravenous procaine hydrochloride has been reported as an efficacious measure in the treatment of serum sickness. It has also proved useful as a post-operative therapy to relieve pain and promote rest, and has been used routinely for this purpose at the Memorial Hospital, New York City. One of us has observed its use in a number of conditions, including arthritis, urticaria, and acute erythema multiforme without adverse reaction.

Dressler and Dwork[17] reported the use of procaine hydrochloride (one gram in 500 cc. of isotonic sodium chloride administered I.V.) in a post-operative patient with a severe serum-sickness type of penicillin reaction. Pain was relieved within ten minutes and all symptoms and signs of the reaction had disappeared completely 6½ hours after starting the infusion. Although it would appear that I.V. procaine is efficacious, it is considered potentially dangerous, especially in allergic patients, and should not be used without adequate safeguards.

If it is anticipated that penicillin therapy may be required repeatedly and the patient is a known reactor, desensitization is worthy of trial. Peck, Siegal, and Bergamini[9] reported successful desensitization of such an individual. Twelve desensitizing injections were administered subcutaneously during a 23 day period. The patient subsequently tolerated therapeutic doses of penicillin without ill effect.

Service[18] has reported good results from intravenous nicotinic acid in doses of 35 milligrams in 10 cc. of water in 41 cases of penicillin urticaria.

SUMMARY AND CONCLUSIONS

1. Penicillin is a safe, effective drug but should not be used indiscriminately.

2. The over-all incidence of reactions following its use is about five per cent.

3. Reactions occur in allergic individuals with no greater frequency and are no more severe than in non-allergic individuals. Patients with skin diseases, however, experience a higher incidence of reactions than do non-dermatological patients.

4. The types of reactions which may occur in allergic persons cannot be predicted.

5. A mild reaction on one occasion does not

usually exclude cautious therapy with penicillin at a later date.

BIBLIOGRAPHY

1. Cornia, F. E., Jacobsen, L. Y., and Smith, E. L.: Reactions to Penicillin. *Bull. U. S. Army M. Dept.* **4**:694, 1945.
2. Newman, A.: Cutaneous Reactions to Penicillin. *California Medicine* **66**:349, 1947.
3. Anderson, D. G.: Treatment of Infections with Penicillin. *New Eng. J. Med.* **232**:423-429, 1945.
4. Hoffman, W. S., and Volini, I. F.: Studies in the Oral Administration of Penicillin: II. Results of Treatment of Pneumococcic Lobar Pneumonia and other Acute Infections with Several Oral Penicillin Preparations, *Am. J. M. Sc.* **213**:520, 1947.
5. Kolodny, M. H., and Denhoff, E.: Reactions to Penicillin Therapy, *J.A.M.A.* **130**:1058, 1946.
6. Noe, C. A.: Penicillin Treatment of Eyelid Infections, *Am. J. Ophth.* **30**:477, 1947.
7. Pillsbury, D. M., Steiger, H. P., and Gibson, G. E.: The Management of Urticaria Due to Penicillin, *J.A.M.A.* **133**:1255, 1947.
8. Welch, H., and Rostenberg, A., Jr.: Hypersensitivity of the Tuberculin Type to Crystalline Penicillin, *J.A.M.A.* **126**:10-12, 1944.
9. Peck, S. M., and Siegal, S., and Bergamini, R.: Penicillin Desensitization, *J.A.M.A.* **134**:1546-1547, 1947.
10. Schultz, A.: Ocular Dermatitis from Local Penicillin: Report of Two Cases. *Arch. Ophth.* **35**:145, 1946.
11. Vickers, H. R.: Contact Dermatitis Caused by Penicillin. *Lancet* **1**:307, 1946.
12. Satulsky, E. M.: Dermatitis Venenata of the Eyes and Eyelids from the Local Use of Penicillin, *J. M. Soc. New Jersey* **43**:95, 1946.
13. Haswell, R. E., and Wilkinson, J. F.: Allergic Reactions to Parenteral Penicillin, *Lancet* **1**:308, 1946.
14. Barefoot, S. W., and Olansky, S.: Report of a Patient Tolerating Crystalline Penicillin without Reaction after Repeated Cutaneous Reactions to Crude Penicillin, *North Carolina M. J.* **8**:82, 1947.
15. Sullens, W. E.: Simulating Serum-Sickness Reaction to Penicillin. *U. S. Naval M. Bull.* **45**:752, 1945.
16. Yasuna, E. R.: Danger of Penicillin Therapy in Active Uveitis, *Arch. Ophthalmology* **37**:598, 1947.
17. Dressler, S., and Dwork, R. E.: Reactions to Penicillin; Procaine Hydrochloride Intravenously in the Treatment of Reactions Similar to Serum Sickness, *J.A.M.A.* **133**:849, 1947.
18. Service, W. C.: The Treatment of Penicillin Urticaria with Nicotinic Acid, *Ann. Allergy* **4**:397-398, 1946.

DISCUSSION

DR. OSCAR SWINEFORD, JR., Charlottesville: It is always important for us to be reminded that drugs cause disease. This paper is, therefore, very timely. It is comforting to remember that few of the many reactions to penicillin are severe. The renal and the blood complications, which we expect rather commonly from the sulfonamides, are negligible.

Several points were brought out which might be repeated. There is a decided tendency for fungus infections of the skin to flare up after the administration of penicillin, especially epidermophytosis. Infection of the mouth with monilia has not been uncommon following penicillin aerosol. We have had two cases of bronchopulmonary moniliasis following the administration of penicillin by inhalation.

A point not mentioned in the paper has been the tendency for penicillin-sensitive organisms to be replaced by organisms resistant to penicillin. In one case, for instance, Pyocyaneus appeared in pure culture in the sputum after the use of penicillin aerosol.

It is not unusual nor unexpected that the incidence of reactions to penicillin was the same in allergic and nonallergic individuals. The allergic individual reacts to things to which he is sensitive and not to other things.

The high incidence of sensitization following topical application of penicillin should be emphasized. This is not unexpected, since penicillin is used topically on diseased skin. The damaged skin becomes sensitized more easily than does normal skin. Therefore, penicillin should be used topically with extra caution.

Dr. Black mentioned that desensitization can be carried out with difficulty. He also mentioned that people who react once need not necessarily react to subsequent administration of the drug. There are good statistical analyses of that point by Dr. Hopkins and his associates in the July, 1947, issue of the *Journal of Allergy*. Dr. Black's warning with regard to the administration of procaine intravenously should be repeated. Most of the local anesthetics are potent sensitizers.

MYOCARDIAL INFARCTION
A Review of 100 Cases*†

JULIAN R. BECKWITH, M.D.,
W. R. CHITWOOD, M.D.,
and
ALLEN E. LE HEW, M.D.,
Clifton Forge, Virginia.

INTRODUCTION

Methods of Analysis. The object of this paper is to review our experience in an effort to evaluate our diagnostic procedures and methods of handling this disease, and to determine whether or not this is in keeping with the experience of other groups, as well as to see if some useful information can be made available to ourselves and to others which will help in the diagnosis and management of the disease.

The cases reviewed were admitted to the hospital from July 1, 1941, through September 1, 1943, and January 1, 1946, through February, 1948; consequently, they are not consecutive admissions. A few cases which were admitted during these periods were not included since insufficient information was present on the records.

The incidence of male to female patients is probably not indicative of the incidence of the disease since our hospital is an industrial institution and the proportion of male to female admissions is unusually high.

The records were reviewed and all of the pertinent information obtained; then an analysis of the data was carried out. No attempt was made to review the literature completely but merely to compare our experience with that of several other series.

Our diagnostic procedures have consisted of a careful history and physical examination, electrocardiograms, sedimentation rate, routine blood counts, and urine examination. On a few occasions fluoroscopic examination of the heart was carried out.

Therapy routinely included bed rest for four to six weeks, low caloric diet restricted in sodium, and the administration of a sedative as needed. Oxygen was administered by means of a tent for the first 48 hours. Digitalization was carried out for heart failure and mercurial diuretics were freely given when indicated. The latter have been employed more frequently during the past twelve months than previously. In fact, on several occasions it was found that the salt and water retention could be controlled by mercupurin alone without the use of digitalis.

Quinidine was given when ventricular tachycardia occurred, when frequent ventricular extrasystoles developed from different foci, or when auricular fibrillation, which developed after the infarction occurred, lasted more than 24 hours.

Demerol was found to be a satisfactory sedative, though morphine was frequently given for severe pain. Atropine was given on several occasions when marked bradycardia and shock developed and on one occasion it was the clinical impression that it was life saving. Dicumarol was given to patients during the past six months. These were selected because of shock, extension of the thrombosis, or thrombo-embolic phenomena. It is now being routinely employed. These cases will be separately reported.

RESULTS AND DISCUSSION

The cases were grouped according to age, sex, and mortality in the different decades from 30 to 90, and these groups are showed in Chart I.

It can be seen that, of the 100 cases, 28 died, a total mortality of 28.0% and that the mortality of the males and females is about the same, 27.9% and 28.5%, respectively.

The youngest case was a woman of 33 years and the oldest a woman age 89 years. The greatest number of cases occurred in the age groups of 50-59 and 60-69 years, there being 32 in the former and 33 in the latter. The mortality in the elder group (60-69 years) was 36.6%, while that in the younger (50-59 years) was 18.7%. These figures give a trend only since they are few in number, but indicate that the older the patient is when he develops

*Eighty of these cases were reviewed and reported at the meeting of the Medical Society of Virginia, October 15, 1947.

†From the Department of Internal Medicine, Chesapeake and Ohio Hospital, Clifton Forge, Va.

CHART I

AGE GROUP—SEX—MORTALITY

	30-39		40-49		50-59	
	No.	Died	No.	Died	No.	Died
M	4	1	11	1	29	6
F	1	1	1	0	3	0
T	5	2	12	1	32	6

	60-69		70-79		80-89	
	No.	Died	No.	Died	No.	Died
M	29	11	11	4	1	1
F	4	1	4	1	1	1
T	33	12	15	5	2	2

Total Cases, 100 — Total Males, 86
Total Deaths, 28 — Total Females, 14
Mortality, 28% — Mortality of Males, 27.9%
Mortality of Females, 28.5%

M—Male
F—Female
T—Total

the disease, the more apt he is to die. This has also been reported by other observers.[1] The total mortality of 28.0% compares fairly well with the series reported by Mintz and Katz (21.8%).[1] Other authors report mortalities from 8% to 53%.[1] The number of females in this series is too small for any conclusion to be drawn, but it has been reported that the mortality is usually considerably higher in females.[1,2]

PREVIOUS HYPERTENSION

Thirty-one individuals had hypertension in the past. This is probably not entirely accurate since this history was not always possible to obtain. If a patient had been told that his blood pressure was elevated or it was found to be over 150 systolic and 90 diastolic during his stay in the hospital, he was classified as hypertensive. In a few instances, a previous hospital record was available.

CHART II

HISTORY OF PREVIOUS HYPERTENSION:

Male	26	30.2%
Female	5	35.7%
Total	31	31%

Angina for at least 6 weeks prior to attack	38
History of Gallbladder Disease	5
History of Peptic Ulcer	1

DROP IN BLOOD PRESSURE			NO DROP IN BLOOD PRESSURE		
Number	Died	Mortality	Number	Died	Mortality
44	16	36.3%	49	12	24.4%

TEMPERATURE ELEVATION			NO TEMPERATURE ELEVATION		
Number	Died	Mortality	Number	Died	Mortality
76	24	31.5%	24	4	16.6%

These thirty-one cases can be broken down (Chart II) into 26 males, or 30.2%, and five females, or 35.7%. It is a common observation that hypertension is more prevalent in women than in men with myocardial infarction.[1] However, the total number of individuals from whom a history of hypertension could be elicited in this series is somewhat lower than is usually reported.[1]

History of Angina. An effort was made to determine whether or not angina was present prior to the occurrence of myocardial infarction, and, though this history was not always available, on the charts, in 38 patients it was found to have existed, indicating that coronary insufficiency had been present for some weeks and was a warning signal that an infarction was impending. A history of angina was recorded in other series and varied from 22.4% to 72.97%.[1,2]

From only five patients could it be definitely stated that gallbladder disease either coexisted or had existed in the past. This was considered to be present if there was a history of cholecystectomy or definite gallbladder attacks with x-ray findings of a non-functioning gallbladder.

Peptic ulcer was found to be associated in only one patient.

Drop in Blood Pressure. Blood pressure fall was considered to have occurred if the diastolic level fell 20 mm. of mercury and the systolic 30 mm. of mercury, or if the blood pressure was low on admission and became elevated as the patient improved. A sufficient number of blood pressure readings were recorded on the charts of 93 of the 100 patients for this purpose and it was found that the blood pressure dropped in 44 patients and did not fall in 49 patients. The mortality of the former was 36.3% and of the latter 24.4%. This difference in mortality is probably significant and indicates that the cases whose blood pressure drops are more severe.

These figures are at variance with those usually reported, since most authors describe a drop in blood pressure in practically all cases.[1,3,4] The discrepancy may be due to the fact that a number of our patients were seen several hours to several days after the attack and that the blood pressure fell prior to admission to the hospital.

Temperature Elevation. The temperature was taken by mouth except when it was thought impossible to obtain an accurate reading, at which

time it was taken rectally. Ideally all temperatures should have been rectal but it was technically impractical to do this.

Seventy-six patients were found to have a temperature above 98.6° F., twenty-four died, a mortality of 31.5%; while of twenty-four patients who did not have a temperature recorded above 98.6° F., four died, a mortality of 16.66%. These four patients were brought to the hospital in shock and died soon after admission.

Elevation of temperature is a well known finding following myocardial infarction and it has been reported the higher the temperature the greater the mortality.[2] This is in keeping with the higher mortality of the present series of those patients who developed temperature elevation and in those who did not.

Laboratory Studies

Leukocytosis was considered to exist if the total white blood count was above 10,000 per cu.mm.

Chart III
Laboratory Studies

Leukocytosis			No Leukocytosis		
Number	Died	Mortality	Number	Died	Mortality
44	16	34.5%	43	7	16.2%

Sedimentation Rate

Number Done	Number Increased	Percentage Increased
87	74	85.0%

Fifty-five patients developed leukocytosis following infarction and, of these, nineteen died (a mortality of 34.5%), while, of forty-three who did not have an increased white count, only seven, or 16.2% died.

This is again consistent with the findings of others that the higher the leukocyte count, the greater the mortality.[2] Usually, however, a greater number of patients develop leukocytosis than is reported here.[3]

Sedimentation rate was performed by the Cutler method, using potassium oxalate as an anticoagulant. In most cases this was done at some time during the first two days after admission and repeated several times during the patients stay in the hospital.

This test was done in 87 of the 100 cases, and was found to be increased in 74 of these (85%). Eighteen of these patients died (24.3% mortality). Six patients who died did not have a sedimentation rate performed. Four of the patients who had a normal sedimentation rate died. No conclusions as to prognosis can be drawn, but diagnostically it was of value.

Electrocardiographic Changes

Electrocardiograms were taken frequently during the first week after infarction and then usually at least once a week thereafter. During the years 1941-1943 the standard leads and lead 4F were routinely taken. From January, 1946, through June,

Chart IV
Electrocardiographic Changes

	Number	Died	Mortality Percentage
Total	96	27	28.1
Anterior	33	8	24.2
Posterior	51	16	31.3
Combined	4	1	25.0
Non-specific	8	1	12.5
None	4	1	25.0

Bundle Branch Block

	Number	Died	Mortality Percentage
Total	10	3	33.3
Left	5	2	40.0
Right	5	1	20.0

1947, the standard leads and precordial leads CR2, 4, and 5 were employed. Since June, 1947, standard leads, unipolar limb leads, and multiple unipolar precordial leads have been used in all cases suspected of coronary disease. We have not used the esophageal lead.

Electrocardiographic changes occurred in 96 of the 100 cases. Of these, 33 (34.3%) were anterior, and 51 (53.1%) were posterior, 4 were combined, 8 showed nonspecific changes, and in 4 no changes were recorded.

The mortality of those with anterior infarction was 24.2%, with posterior infarction 31.3%, with changes indicating both anterior and posterior lesion 25%. Only one, or 12.5%, of those with nonspecific changes died, while 3 of 4 who did not show changes survived. These latter four patients were thought to have sustained an infarction clinically. Two developed sudden severe congestive failure without obvious cause and one had pain, elevation of temperature and sedimentation rate, and drop in blood pressure, and the other had typical pain, elevation of temperature, followed by death. In none of these individuals was the precordium explored with the unipolar electrode nor were the unipolar limb leads used. It is, therefore, possible

that had this been done, changes may have been brought out.

The greater number of posterior infarctions compared with anterior infarctions is unusual,[2,5] and not explained. Other authors[1] have stated that the mortality of anterior infarction is greater than or about equal to that of posterior infarction, and the incidence is about the same.

Bundle branch block was found in 10 patients, in 5 of whom it was right and in 5 left. Two with left bundle branch block died and one with right bundle branch block died. The total mortality was thus 33.3 % as compared with 28% for the series.

PAIN

Ninety-three of the 100 cases developed pain when the attack began. In 51 it was substernal in location and in 36 of these it radiated to one or both arms. Precordial pain was described in 17, abdominal in 10, right chest in 3, and located in the back in 3 cases. There was no correlation between the location of the pain and the location of the infarct.

CHART V

PAIN

Number of Patients Who Developed Pain	93 or 93.0%
LOCATION	
Substernal Alone	15
Substernal and Radiation to Arms	36
Precordial	17
Abdominal	10
Right Chest	3
Back	3
Correlation Between Pain and Location of Infarct	None
Mortality of 93 Patients Who Developed Pain	25.7%
Mortality of 7 Patients Who Did Not Develop Pain	57.0%

Seven patients did not have pain. However, three of these had complete heart block with syncope as their initial symptom, and two others had severe heart failure. The sensorium of these patients was clouded and the threshold for pain probably lowered.

The mortality of the 92 who developed pain was 25.7%, while four of the seven (57.01%) of those who did not have pain died. The mortality of painless infarction was thus considerably higher than in the group with pain. It is interesting to compare this with Rosenbaum and Levine's group,[2] of which six did not have pain and five died. However, of 578 patients reported by Mintz and Katz,[1] 18 had painless infarction, and only 27.7% died.

It should be emphasized again that the substernal area is the most common site for pain of coronary disease to occur.

CHART VI

CONGESTIVE HEART FAILURE

Number	Died	Mortality Percentage
23	10	45.4

NO CONGESTIVE HEART FAILURE

Number	Died	Mortality Percentage
78	18	23.0

HEART FAILURE

A diagnosis of heart failure was made if a patient had dyspnea, associated with rales in the lung bases, or had other evidences of salt and water retention, such as elevated venous pressure, edema, or enlarged tender liver.

Twenty-two patients had definite heart failure. Ten of these (45.4%) died. Eighteen of the 78 patients who did not have heart failure died (23.0% mortality).

It appears that the occurrence of heart failure carries a high mortality, which is consistent with other series.[1,2] Mintz and Katz report a 46.2% mortality of patients with heart failure compared with 21.8% of their entire series of 572 patients.

ARRHYTHMIAS

Thirty-nine patients developed arrhythmia of some type during their stay in the hospital and of these 20 (51.5%) died. 8% without arrhythmia died.

CHART VII

ARRHYTHMIAS

Number	Died	Mortality Percentage
39	20	51.5%

Types of Arrhythmias	Number	Died
Ventricular Extrasystoles	18	5
Gallop Rhythm	8	5
Auricular Fibrillation	6	2
Ventricular Tachycardia	4	4
Complete Heart Block	3	3
Partial Heart Block	1	1
Auricular Paroxysmal Tachycardia	1	1
Auricular Flutter	1	0
Auricular Extrasystoles	1	1

It can be seen in Table VII the types or arrhythmias, the number of patients who developed each type, and the number who died.

These findings indicate that individuals who develop arrhythmias have a significantly greater mortality than those who do not. This is in keeping with the findings in other series.[1,2]

PERICARDIAL RUB

A pericardial friction rub was heard in 13 patients sometime during the course of the illness. Three of these patients (23%) died. Five showed

CHART VIII

	Pericardial Rub Number	Pericardial Rub Died	Mortality Percentage
Total	13	3	23.0
Anterior	5		---
Posterior	5		---
Combined	2		---
Undetermined	1		---

electrocardiographic changes typical of anterior infarction five typical of posterior, infarction, two of a combined lesion, and in one case the location could not be determined. This brings out the fact that the appearance of a pericardial rub does not always indicate the presence of anterior infarction.

The occurrence of pericarditis is said to vary from 13.8% to 48% of reported cases.[1] It is said to be of value prognostically since the presence of this condition usually indicates a larger area of the myocardium involved than in those cases in which it is not present. It has also been stated that pericarditis is more frequently found in patients who died than in those who survived.[6]

MISCELLANEOUS

Chart IX shows the occurrence of a number of miscellaneous happenings.

CHART IX

	Number	Died	Mortality Percentage
Dyspnea	62		---
Sweating	48		---
Shock	28	13	46.4
Diabetes	11	6	54.5
Pulmonary Infarction	8	6	75.0
Peripheral Thrombosis	2	1	---
Peripheral Embolism	1	1	---
Cerebral Accident	2	0	---

A history of dyspnea was obtained in 62 patients. Sweating occurred in 48 cases.

These findings were therefore important diagnostically here as well as in other series.[2]

Shock was considered to be present if the systolic blood pressure was below 90 mm. of mercury and the patient had the clinical picture of which is usually known as shock; that is, cold clammy skin, pallor, and usually tachycardia.

This condition was found 28 times; 13 of these patients died (46.4% mortality). Other authors have reported a similar increase in mortality[2] when this condition occurs.

Diabetes was found in 11 patients, 6 of whom died. This increase in mortality in the diabetic has also been previously described.[1]

A total of 13 patients developed thrombo-embolic phenomena, eight pulmonary infarction, two peripheral thrombosis, one peripheral embolism, and two cerebral embolism. Eight of these thirteen patients, or 61.5%, died.

Thrombo-embolic phenomena are notoriously serious complications of myocardial infarction and every effort should be made to prevent this. It is possible that the use of dicumarol will reduce the number of these complications. However, at the present time, the value or the danger of the anticoagulants are not known and it is wise to be cautious.

SUMMARY

One hundred cases of myocardial infarction have been reviewed, a survey made of their age, mortality, and clinical findings, and these results were compared with some of those described in the literature.

BIBLIOGRAPHY

1. Mintz S. S., and Katz, L. N.: *Arch. Int. Med.* **80**: 237, 1947.
2. Rosebaum, F. F., and Levine, S. S.: *Arch. Int. Med.* **68**:913.
3. White, P. D.: Heart Disease, Macmillan and Company, 1947.
4. Master, A. M.; Jaffe, H. L.; Dackis, and Silver, N.: *Amer. Heart Jour.* **26**:92, 1943.
5. Barnes, A. R., and Ball, R. G.: *Amer. Jour. Med. Sci.* **183**:215, 1932.
6. White, P. D.: *Jour. A.M.A.* **87**:1525, 1926.
7. Nay, R. M., and Barnes, A. R.: *Amer. Heart Jour.* **30**:65, 1945.

DISCUSSION

DR. J. EDWIN WOOD, JR., Charlottesville: The rising incidence of coronary thrombosis with myocardial infarction, although probably more apparent than real, deserves a careful consideration.

This review by Dr. LeHew and Dr. Beckwith at once indicates the importance of the clinical history. Too much emphasis is often given to the electrocardiogram when a careful evaluation of the history of the disease tells so much more. For example, the rate at which attacks of angina pectoris occur is extremely important. A rising anginal rate over an occasional occurrence often denotes impending infarction, whereas some patients may have an occasional attack over a period of years without a serious upset.

Now as regards the occurrence of temperature in these patients it is well to remember that although the electrocardiogram is positive in only about eight-five per cent of patients with myocardial infarction, fever is present one hundred per cent of the time when death of heart muscle occurs. Careless use of the thermometer often fails to establish this valuable point.

Auricular fibrillation in association with myocardial infarction is an unfavorable sign and general opinion favors the use of quinidine to maintain normal rhythm if possible.

Myocardial infarction need not and frequently does not carry an unfavorable future. Many of us have patients who have lived many happy and successful years following myocardial infarction. A fatalistic attitude in this regard is to be deplored.

Although the final reports on dicumarol have not been published, advance studies seem to indicate the advisibility of the use of this drug in many cases where it is properly controlled.

DR. OSCAR SWINEFORD, Charlottesville: I should like to ask Dr. Beckwith two questions. One, the number of patients who had dyspnea before they had signs of coronary thrombosis; the other, elaborate a little on the patients who did not have pain.

DR. BECKWITH, closing the discussion: Answering Dr. Swineford's first question, as to those who had dyspnea before the coronary thrombosis, we did not get the information as to whether they had it before or after they got the pain. Of the seven without pain, three, as I said, had severe heart failure beginning very suddenly. Three others had complete heart block with syncope; they may have had pain, but the records do not show this. The others came into the hospital and routine cardiograms were done which showed a rather typical infarction. They did not complain of pain but had been "feeling bad" for several days. Of those who did not have pain, four had other signs which were rather characteristic—i.e., heart failure, syncope, and electrocardiographic changes.

I also want to thank Dr. Wood for his discussion.

Bibliotheca Obstetrica

de Graaf, Regner, (1641-1673): De mulierum organis generationi inservientibus. Lugduni Batavorum, *ex off.Hackiana*, 1672. 10 1.,334 p. 9 1., front. port. illus. 15.4 cm. RG380.02 G1672.

——: Opera omnia. Lugduni Batavorum, *ex off.* Hackiana, 1677. 719 p. engr.t.p. & plates 16.5 cm (Miller Library)

deGraaf was born at Schoonover, Holland. He studied at Delft and later in France under Sylvius. Upon his return to Delft, he began the practice of medicine. He was the first to study the pancreas and its digestive juice. He employed pancreatic and parotid fistulae for collecting digestive fluids. In 1668 he published a classic account of the testicle. This work also contains an essay on the use of clysters, which were then coming into fashion. His great work *Demulierum organis generationi* embodies the best knowledge of the generative organs of women of his time. It contains the first description of the structures which Haller called the Graafian vesicles in his honor. deGraaf demonstrated ovulation, anatomically, pathologically and experimentally.

INDISCRIMINATE USE OF ESTROGENS IN THE MENOPAUSE*

J. M. HABEL, JR., M.D.,
Suffolk, Virginia.

The increasing number of patients seen with uterine bleeding due to over-stimulation of estrogenic hormones, and a recent article by Ayre[1], showing a definite relation between nutritional deficiency, excessive estrogens, and inflammation as a possible cause of cancer of the cervix, led me to examine some of the effects of excessive estrogens. I would, therefore, like to show you some of the dangers of the excessive use of estrogens in the menopause, and at the same time try to show you how they may be limited.

There is only a small percentage of women going through the menopause who will need any therapy. Too many of us, especially during the past few years when we did not have time to examine patients as we would like, have been prompted to call every ailment a woman has between the ages of 35 and 50 as due to the menopause. We would explain to them that their symptoms were due to "change of life", and as a great many had been listening to their friends explain their symptoms as due to menopause, they likewise would accept the diagnosis. Following this, the patient was given numerous injections of estrogenic substances, and, in most cases, it was given by the nurse, the patient not seeing the physician again for a long period of time. Another factor which may cause this long-continued course of estrogens, is financial. I have often heard physicians say that their office expenses were paid by injections of estrogenic hormones given by their nurses. If most of these patients had been adequately examined, they would have been found to have something entirely different from the menopause. Those cases which had typical symptoms of the menopause, including numerous vasomotor symptoms and cessation or irregular menstrual periods, could have been treated with a little psychotherapy along with mild sedation.

Now let's take a look at some of the damages that can be done by the indiscriminate use of estrogenic substances, both in natural form, and the more recent synthetic or conjugated types of estrogens. There has been a great deal of controversy on the question of whether estrogenic substances can cause cancer or not, and the general conclusion is that they cannot, if given in the usual therapeutic doses. There are a number of post-menopausal women with carcinoma of the cervix, who at some time will have a hyperplasia of the endometrium, suggesting estrogenic stimulation[2]. Women who have late menopause, that is, between the ages of 50-55, are more prone to have adenocarcinoma of the uterus. Randall[3] states that a woman experiencing a functional menorrhagia or metrorrhagia at the menopause, particularly a woman with evidence of persisting estrogenic effect in her post-menopausal years, should be regarded as predisposed to the development of adenocarcinoma of the uterus. It has also been found that in cases of granulosa-cell tumor[4] of the ovary in post-menopausal women, the incidence of carcinoma of the uterus is very high. Since this type of tumor causes an abnormal estrogenic stimulation, it is highly suggestive of estrogen-cancer relationship.

As stated above, Ayre[1], in a study of a number of cases of squamous cell carcinoma of the cervix, found that there was a definite correlation between the infection, excessive tissue estrogen, and lack of vitamin B_1 or thiamine chloride as a causative factor in the production of a cancer of the cervix. He stated: "Estrogen fixation and concentration in infected cervical tissue is believed to be a gross stimulating factor pre-disposing to cancer." Another factor which may cause us to think that estrogen may be connected to cancer in some way is the fact that in malignancy of the breast, with metastasis, in the young woman, marked improvement is shown by surgery or castration by radiation, and a substitution of the male sex hormone.

Excessive use of estrogenic hormone may produce excessive bleeding[2]. There are women who, for no other reason except the menopause, have excessive amounts of uterine bleeding, and the addition of estrogenic substances markedly increases their bleeding. There are other women who show no tendency to bleed until they have been given rather extensive courses of estrogens for their vasomotor

*Read before Seaboard Medical Association of Virginia and North Carolina, at Virginia Beach, December 3-4, 1947.

symptoms. There are still others who show a rather marked amount of uterine bleeding following the withdrawal of the hormones. Most of these cases will completely clear up following the discontinuance of the medication. Curtis[5] states that estrogenic therapy has completely disoriented the medical appraisal of menopausal uterine bleeding. The endometrial biopsy following large doses of estrogenic substances, so closely resemble adenocarcinoma in some cases that it is often confusing to the most experienced pathologist. If the medicine is discontinued for several weeks, the pathological diagnosis becomes much easier. There are a few patients who will continue to have some vaginal bleeding, and a diagnostic currettage will have to be done to rule out malignancies.

The excessive or prolonged use of estrogenic substances will often cause prolongation of readjustment. Most of the symptoms of menopause are thought to be caused by the surplus of gonadotropic stimulating hormones of the anterior pituitary gland, due to the withdrawal of estrogenic hormones, rather than the lack of estrogenic hormones. Hamblen[6] and his co-workers are of the opinion that besides having a compensating hyperactive pituitary gland, you also have hyperadrenalism, with production of adrenal cortex substances which ultimately stabilize the endocrine system. Therefore, the long-continued use of estrogenic substances only tends to retard the readjustment to the lack of estrogenic hormone.

One of the factors that enters into the indiscriminate use of estrogens is addiction. There are a few people who become "shot-conscious" and require injections of estrogenic hormones, or saline for that matter, to relieve their symptoms. There are also a few people who, having been given large amounts of estrogenic substance in pill form, become addicted to the pill. I have seen several patients who have been given stilbestrol of one manufacture, when changed to another in identical dosage, complain from lack of benefit from this second drug, simply because it was not of the same color or shape. A factor which aids addiction is the fact that, in some localities, estrogenic substances can be purchased over the counter without prescription. A large number of patients or some other persons have been taught to give the injections without the supervision of the physician.

Long-continued use of estrogenic hormones in injectable form creates quite an expense to the patient, both in physician's bills and in loss of time and traveling expenses getting to the doctor's office several times a week.

Then, too, there are patients who have symptoms which they think are due to menopause, which arise while under treatment. They fail to say anything to the physician or the nurse, in the office where the nurse gives the injections. These symptoms sometimes may be evidence of a rather serious disease such as malignancies of the cervix or uterus. A good example of this was a case that a member of this Society told me was referred to him. She had been under treatment for two years or more, during which time she received several injections a week of estrogenic hormones. While under treatment she began to have some vaginal discharge which later became bloody and rather profuse. Not until she had profuse vaginal bleeding did she mention the fact to the nurse or the doctor; and, when finally seen, was found to have an advanced carcinoma of the cervix. This patient had been going to the doctor's office during this period of time, and thought the bleeding a part of the symptoms of menopause rather than some other disease.

Most of these dangers can be overcome if we go about the management of the patient with menopause in a systematic way.

The patient coming to us for treatment should have a complete examination, including a thorough psychiatric study. Greenhill[7] states that if physicians would remember that psychoneurosis of many years standing, tension states and reactive depressions are the most common psychiatric disorders of the involution age, and were to look for these conditions in their patients of that age, errors in diagnosis and treatment would be obviated. Those patients who, after careful examination, are found to have a true menopausal syndrome with severe vasomotor symptoms, which is usually the factor causing most patients to consult us, may be divided into several groups for treatment. In the first group we would place those patients who have a family history, or who have had some type of malignancy, especially of the genital tract or breast. We would also place in this group patients with a history of menorrhagia or metrorrhagia, those with chronic cervicitis, and those with artificial menopause. We would tend to treat them by means other than estrogens, as they are definitely contra-indicated in this

class of patient. There are a number of drugs which can be substituted for estrogens.

Christy[8] has found that vitamin E in the form of a synthetic preparation, such as ephynal acetate, has been very helpful in a large percentage of menopausal patients who fall into this group. I have also treated a few patients who have menopausal symptoms with 2.5 mg. of ephynal acetate, b.i.d., and have obtained splendid results in most of them. This seems to be a comparatively safe drug, and there have not been any untoward after-effects from it, and it is well tolerated.

There have also been several articles reporting the use of the male sex hormone in the menopause. Gusberg[9] found that 20 mg. of methyltestosterone by mouth daily for four weeks, and 10 mg. daily for two weeks thereafter controlled the symptoms of most menopausal patients. By using a small dose, one does not run into the bad side-effects usually found in the use of the male hormones, such as increase in the amount of hair on the body and abnormal enlargement of the clitoris. The use of the male sex hormone in the female, according to Curtis[5], is rational and not harmful, contrary to the opinion of a number of people. A normal woman produces and excretes almost as much androgen in the urine as the male. It has been found that the male sex hormone inhibits the pituitary gonadotropic activity, and at the same time has an inhibiting effect on the uterine muscles. It also does not cause a hyperplasia of the endometrium. Due to these findings it would seem that the male sex hormone would be the drug of choice in treating the menopause since it does not produce excessive bleeding and prohibits the gonadotropic activity of the pituitary, which is thought to be the chief cause of the vasomotor symptoms in the menopause. The main objection to the use of the male sex hormone is its cost, as it is more expensive than synthetic estrogenic products given by mouth. Much smaller doses of androgen can be given if it is slowly absorbed in the mouth, as the drug goes directly into circulation, thus preventing large amounts of the drug being destroyed in the liver.

In those cases which do not fall into the above classification, or for any other reason estrogens are not contra-indicated, estrogenic hormones or synthetic estrogen in some form or other may be given without much danger. They should be given only for a short period of time and in as small doses as possible. One of the synthetic estrogens will usually be found to be satisfactory in most cases. Diethyl-stilbestrol, or stilbestrol, as we are accustomed to calling it, was the first of the numerous synthetic drugs used, and when given in small doses was tolerated rather well. However, there are about 10% of the people who have gastric disturbances along with other symptoms which will prohibit its use. There are several other synthetic estrogens which have been found to be less toxic, such as meprane[10], dienestrol[11], hexestrol, and benzestrol. I have found hexestrol to be satisfactory, both plain and occasionally in combination with small doses of phenobarbital. Whenever one of these drugs is prescribed, it should be used in the smallest dose possible to relieve the symptoms and a prescription for about two or three weeks treatment should be given. The druggist should be instructed not to refill the prescription. The patient should be instructed to return to your office at the end of two or three weeks, at which time you may determine whether she is receiving benefit from the drug, and, if not, stop its use. If it is found to relieve her symptoms, another prescription for a small amount can be given. At the same time the patient should be told of the dangers of the drug, and that prolonged use of it will only cause prolongation of her menopausal symptoms. I believe the long-continued use of estrogen is more harmful than large doses for a short period of time.

There will be a few people who will not be able to tolerate any type of synthetic estrogenic hormone, and therefore have to be given natural or conjugated estrogens in the form of injections. They should be given only enough to relieve their symptoms, which will probably be one or two injections of about 10,000 units once or twice a week. This should be kept up for only about four to six weeks, following which it should be discontinued for as long a period as possible. Due to the findings of several authorities[12], I believe that the vitamin B complex should be given to patients receiving any type of estrogenic substance. As stated above, Ayre[1] found that there was a definite lack of B_1 in a large percentage of his cases of carcinoma of the cervix. It has been proved that vitamin B_1 is necessary for the liver to break down the estrogens. Since there does not seem to be any harmful effect in moderate doses, and in spite of its having anything to do with the preventing of malignancies, I

do not believe the use of vitamin B would in any way be contra-indicated. All infections of the genital tract, especially chronic cervicitis, should be cleared up, as infection has been suggested as an important factor in the cause of malignancy.

CONCLUSION

The excessive use of estrogenic substances may be a factor in the cause or stimulation of cancer. It will also cause excessive uterine bleeding as well as prolongation of the menopause. Estrogens may be habit-forming as well as expensive to the patient if not used judiciously. These factors may be prevented if cases are carefully selected and such substances as vitamin B_1, vitamin E and male sex hormone are substituted for estrogenic substances. Small doses of estrogens given over a short period of time in selected cases are desirable, but self-medication should be discouraged.

BIBLIOGRAPHY

1. Ayre, J. E.: *Am. J. Obst. and Gyn.* **54**:363-389, 1947.
2. Novak, E.: *J.A.M.A.* **125**:98-99, 1944.
3. Randall, C. L.: *Am. J. Obst. and Gyn.* **53**:429, 1947.
4. Corscaden, J. A., and Gusberg, S. B.: *Am. J. Obst. and Gyn.* **53**:425, 1947.
5. Curtis, A. H.: *J.A.M.A.* **135**:560-564, 1947.
6. Hamblen, E. C., Ross, R. A., Cuyler, W. K., Baptist, M., and Ashley, C.: *Endocrinology* **25**:491, 1939.
7. Greenhill, M. H.: *S. M. J.* **39**:791, 1946.
8. Christy, C. J.: *Am. J. Obst. and Gyn.* **50**:84-87, 1945.
9. Gusberg, S. B.: *Am. J. Obst. and Gyn.* **50**:502-505, 1945.
10. Lin, H. A. C.: *Am. J. Obst. and Gyn.* **54**:296-300, 1947.
11. Finkler, R. S., and Recker, S.: *Am. J. Obst. and Gyn.* **53**: 513-517, 1947
12. Biskend, M. S., and Biskend, G. A.: *Science* **94**:462, 1941.

Seat Next To Driver Most Dangerous.

Automobile passengers occupying the front seat next to the driver are in the most dangerous position in the car, according to a Detroit plastic surgeon writing in the May 22 issue of *J.A.M.A.*

In his report, Claire L. Straith, M. D., chief of the Plastic Surgery Division, Harper Hospital, Detroit, says:

"Drivers occupy the safest seat in the car; protected by the steering wheel, they escape injury in many severe accidents. 'Guest passengers' in the front seat beside the driver are, on the contrary, in the most dangerous seat in the car because of their unprotected position in case of sudden stops."

According to the article, occupants of the "death seat" beside the driver are injured at the rate of about three to one, as compared to the driver. In a study of 50 consecutive patients with facial injuries from automobile accidents, Dr. Straith discovered that about 70 per cent were young women and girls who had been riding in the front seat next to the driver. Substantiating his "death seat" theory, the Detroit surgeon cites figures secured from the Detroit police department, showing that in 219 accidents involving multiple occupants, 260 passengers but no drivers were injured.

According to the article, the Detroit study showed that more than half of those front seat passengers involved in auto accidents sustained injuries of the head, including facial cuts and damage to the teeth, chin, nose, cheeks, ears, forehead and skull.

Among the remedies suggested by the writer to reduce the "death seat" danger are removal of all knobs, cranks, drop down ash trays and sharp ledges from the dash board and the use of rubber padding on the dash in front of the guest passenger.

A REPORT OF SIXTY-TWO CASES OF INFECTIOUS HEPATITIS OCCURRING IN 1946, STATION HOSPITAL, CAMP LEE, VIRGINIA*

JAMES F. SCHIEVE, CAPTAIN, M.C.,*
Assistant Chief, Medical Service,
Camp Lee, Virginia.

At the Station Hospital at Camp Lee in 1946 sixty-two patients were hospitalized with acute infectious hepatitis. These patients constituted a major problem for the medical service in regard to proper treatment during their prolonged hospitalization, and in the attempt to determine when they were well.

Of the sixty-two patients fifty became ill while stationed at Camp Lee. The other twelve were transferred from surrounding Army installations, or became ill while on terminal leave.

Except for three patients, all were believed to have had infectious hepatitis of the epidemic type. Those three were believed to have had serum hepatitis; two, following the use of plasma transfusions given at Camp Lee, and the third became jaundiced forty-five days after the injection of yellow fever vaccine.

For the most part the problem of diagnosis was not difficult. Before complete studies of history and laboratory work were made, confusion existed with patients who were later proven to have had exposure to toxic agents. One patient, while being treated for infectious hepatitis, later gave a history of having had exposure to carbon tetrachloride just before his illness. A second patient had hepatitis following the use of fuadin for the treatment of granuloma inguinale. A third had hepatitis caused by sulfadiazine. One other patient believed to have had infectious hepatitis was found to have congenital hemolytic icterus. These patients were not included in this series. Several patients were initially returned to their quarters or were hospitalized on acute respiratory wards when their illness began with fever, chills, and generalized muscle aching.

Of the sixty-two patients, all were males between the ages of seventeen and thirty-seven, except for one patient, age forty-seven, who had serum hepatitis. There were thirty-seven white patients, twenty-three negroes, one Puerto-Rican, and one American Indian.

In the majority of the cases there was a preicteric[1] or prodromal stage of illness. When this stage existed, it was rarely longer than one week, and most frequently lasted four days. The longest definite prodromal stage was twenty-one days. Interestingly enough, in thirteen of our cases the very first indication of illness was some manifestation of jaundice, usually dark urine or occasionally yellow sclera.

The commonest symptoms[1] in the preicteric stage were anorexia, nausea, fever with mild chilly sensations, epigastric discomfort and pain, weakness, vomiting, generalized muscle aching, headache, and itching, occurring in that order. When jaundice occurred at the onset of illness similar symptoms were present. For the most part the symptoms were remarkably similar and repetitive in all cases. The main variation was the degree of severity. One patient with abdominal pain was admitted to the surgical service for observation, and fortunately was not operated. We have recently admitted one case operated for acute appendicitis in another hospital, in the preicteric phase of acute hepatitis.

It was not possible to accurately determine, from the early symptoms, how severe the illness would be. The degree of jaundice was usually greatest on the eighth to the tenth day of illness. There was great variation in the time of illness when jaundice was deepest. The jaundice usually lasted two to three weeks in cases whose recovery was without any signs of chronic hepatitis. All patients with an icteric index of over one-hundred were found to remain in the hospital at least three months.

Thirty-eight, or sixty-one per cent of the patients had enlarged tender livers during their illness. Only one patient was noted to have splenic enlargement. Ten patients, or sixteen per cent, had tender enlarged posterior cervical lymph nodes. Bradycardia was infrequent. Tachycardia was noted corresponding to the degree of fever present.

*Read before the Southside and Fourth District Medical Association, at Farmville, April 22, 1947.

Published with permission of the Department of the Army Public Information Division, which assumes no responsibility for the opinions expressed or conclusions drawn by the author.

*Dr. Schieve is now out of service and at Duke Hospital, Durham, N. C.

1. Hepatitis, Barker *et al.*, *J.A.M.A.*, August 4, 1945.

Most patients were improved after twenty-four to thirty-six hours of bed rest. Intravenous fluids, when required, were generally used only in the first week of hospitalization. At the end of one week in bed, lessening of jaundice was observed in most patients.

In none of our cases was a marked diuresis[2] with a concomitant improvement of liver function tests noted during the early convalescent stages of the disease. I suspect it was because this symptom was not sought by attending doctors.

The patients, on reviewing their records, all seem to have had an extremely prolonged hospital stay and convalescence—even those we thought of with an average mild illness. In this series, the shortest period of hospitalization was twenty-six days in a patient sick fourteen days prior to admittance. The longest period of hospitalization was two-hundred and forty days in a patient with two remissions of mild fever, recurrent deep jaundice, and hepatomegaly. This man has recently been returned to duty feeling well and so far has had no complaints. Two of our patients have been ill well over six months and have been transferred to a General Hospital where they still remain, with limited exercise tolerance, easy fatigability, occasional episodes of nausea and fever, and hepatomegaly. The most frequent length of hospitalization was between seventy to eighty days.

The most common reasons for prolonged stay were, in the following order, the slow return of liver function tests to normal values; persistent subjective complaints of mild nausea; right upper quadrant discomfort after meals; easy fatigability; and persistent hepatomegaly.

One of the patients died on the twenty-seventh day of an illness suggestive of what Lucke and Mallory[3] have described as a fulminant form of infectious hepatitis. This was a twenty year old negro on terminal leave at his home in Lynchburg, Va. He became sick two weeks prior to hospitalization with anorexia and several episodes of vomiting. He noted weakness and mild, almost constant nausea for seven days before hospitalization. One week before admission his urine became dark in color and for three days prior to admission he noted yellow sclera. When first examined he was afebrile, deeply jaundiced, and did not feel very ill. There was marked hepatomegaly. He ate well and had only slight nausea during the first week under treatment. Because of deep jaundice he was given from the beginning supplemental intravenous glucose, parenteral vitamin K, and a high protein, high carbohydrate, and a low fat diet.

The patient was not cooperative about remaining on bed rest. Ten days after admission he became mildly lethargic; in the next five days he became progressively more lethargic, irrational, delirious, stuporous, and after forty-eight hours in complete coma, he died.

Terminally, hypertension, persistent vomiting, hypoglycemia, and prolonged prothrombin time were present, as described by Lucke[4].

During the hepatitis epidemic occurring in the spring and summer of 1942 in our Army there were 51,337 cases reported. Many of these cases followed the use of yellow fever vaccine. There were one hundred and twenty-five fatal cases in this series, giving a mortality rate of 0.24 per cent.

Autopsies on these patients invariably revealed the characteristic changes of idiopathic red or yellow atrophy of the liver. In the gross, the livers showed large red meat-like areas which were very bloody, and other areas of pale yellow bile-stained tissue. Microscopically, the red areas showed complete loss of liver cells. The yellow areas showed regeneration of liver cells and the smaller bile ducts.

In the epidemic occurring in the Armed Forces from August, 1943, to April, 1945, there were 68,000 cases of hepatitis reported[3]. In these cases yellow fever vaccine had not been given previously. However, nearly one-half of the 196 patients who died in this series had previously received combat trauma and were believed to have had plasma or blood transfusions. The mortality rate in this series was 0.3 per cent.

Fifty-three per cent of the deaths occurred within ten days, or less, of the onset of the illness. Thus, the name "fulminant" form of hepatitis.

Gross examination of the liver in these cases belied the severe hepatic damage found microscopically. Most of the livers were small, with a wrinkled

2. Labby and Hoagland: Alteration in Body Fluid During the Acute Infectious Hepatitis, *Proceedings of the Society of Experimental Biology and Medicine*, October, 1946.

3. Lucke and Mallory: Fulminant Form of Infectious Hepatitis, *American Journal of Pathology*, September, 1946.

4. Lucke: The Pathology of Fatal Epidemic Hepatitis, *American Journal of Pathology*, May, 1944.

capsule, and the cut surfaces had an exaggerated nutmeg appearance.

Microscopically, complete disappearance of liver cells was seen. The reticular framework remained intact, and the inter-recticular spaces were filled with monocytes and red blood cells, or the framework was collapsed.

The microscopic sections on our patient show many of these findings.

It is important to realize these changes occur to some degree in all cases of hepatitis. These changes have already occurred early in the disease and are present when the patient first presents himself for diagnosis and care.

In hepatitis considerable aid is obtained from the laboratory. Not only in diagnosis, which is usually easily made from the history and physical examination, but, more important, in following the clinical course after clinical jaundice and hepatic enlargement have disappeared. At this hospital we have found, as have other observers[5,6], that the bromsulfalein retention, the thymol turbidity, and the icteric index are of great value. Other tests have been used, but we have relied for the most part on these three. When the above tests returned to normal; when the patient was free from abdominal discomfort and could do moderate exercise without untoward symptoms; and when he returned from a brief furlough feeling well; the patients were returned to duty.

Two patients were believed to have had serum hepatitis. The first was a 34 year old civilian employee at Camp Lee, who received plasma on 8 October after sustaining head injuries in a motorcycle accident. On 15 December, or approximately sixty-seven days later, he developed nausea, anorexia, and vomiting. The patient became icteric one week later and was admitted to the hospital after two-weeks of illness, at which time he was vomiting repeatedly and was totally unable to retain food. His icteric index rose to 98 on the twenty-first day of illness, and then subsided. Except for one recurrence of abdominal pain and jaundice in the fifth week of illness, the patient has done well and is now ready for discharge. The second patient, a 46 year old white sergeant, had a plasma transfusion on 31 March 1946 after an operation for a perforated duodenal ulcer. He was well and awaiting retirement from Army service, when he developed nausea, headache, and dark urine on June 7th, 1946, or seventy days after transfusion. He had hepatomegaly and deep jaundice with acholic stools for several weeks. His icteric index rose to 124. The deep jaundice remained for twenty-two days and then gradually subsided after a ten day period.

The third patient in this series, who may have had a form of serum hepatitis or artificially-induced hepatitis, gave a history of yellow fever vaccination in Germany forty-five days before becoming ill. Unfortunately, he went AWOL soon after admission and we have not been able to check his immunization record. The patient had an icterus of 40, an enlarged, tender liver, a high thymol turbidity, and marked B. S. P. retention when last under observation.

Thus far, a rather typical series of cases has been presented. Several questions immediately arise. What is the disease, or are there two diseases, as is thought most likely? What is the cause? How is the disease spread? How may it be prevented, and how may we best treat it?

Much has been learned during the past war. Much is still unknown. It is known that epidemic hepatitis and serum hepatitis are virus diseases, but the icterogenic agents have never been seen, cultured, or transmitted to laboratory animals. The virus is in the blood and feces of humans in the early pre-icteric and icteric phases in epidemic hepatitis and in the blood of humans in the early phases of serum hepatitis[8]. It has withstood heating to 56° C. for thirty minutes, and it passes through a Chamberlain filter. Thus, it does classify as one of the so-called "virus" diseases. To date, filtrates of the stools of volunteers with active serum jaundice have not produced the disease in human volunteers, whereas, filtrates from the stools of patients with active epidemic hepatitis have produced, either by oral or parenteral inoculation, epidemic hepatitis in human volunteers[9].

These facts help explain some of the differences between infectious (epidemic) hepatitis and homologous serum hepatitis. For sometime it has been

5. Mateer, Boltz, Steele, Brouwer, and Colvert: Chronic Liver Impairment, *J.A.M.A.*, March 29, 1947.
6. Bank and Cheskin: Hepatitis as Observed in an Army General Hospital, *Gastroenterology*, May, 1946.
8. Walter P. Havens, Jr.: Epidemiological Studies on Infectious Hepatitis, *American Journal of Public Health*, January, 1946.
9. Havens: Elimination in Human Feces of Infectious Hepatitis Parenterally Introduced, *Proceedings of The Society For Experimental Biology and Medicine*, March, 1946.

observed that secondary cases, not related to the injection of blood products, are common in infectious hepatitis, but very uncommon in serum hepatitis. It does not explain the difference in incubation period of 20-40 days seen in infectious hepatitis, as opposed to 60-120 days found in serum hepatitis; nor the fact that infectious hepatitis is uncommon in people over forty years of age, while serum jaundice occurs at all ages. The lack of heterologous immunity in two diseases, so clinically and pathologically indistinguishable, is also explained.

The mode of transmission is not entirely clear. There are several epidemics reported in which the transmission has been quite accurately demonstrated. It is known that water borne[10], milk borne[11], and food borne[12] epidemics have occurred. The natural route of transmission is believed to be the oral-gastro-intestinal route[13].

Most epidemics have occurred under poor sanitary conditions and in the early fall months. The height of the epidemic at Camp Lee occurred from late July until latter October. Evidence has been presented that close contact[14] of people may be a factor, as also may be the shifting of non-immune[14] populations into an endemic area.

Outbreaks of serum jaundice have been noted in many large diabetic and venereal disease clinics. That outbreaks occur where needles are not thoroughly cleaned and autoclaved is an established fact. The re-use of needles sterilized only in alcohol is a dangerous procedure. As little as 0.01 cc. of serum can transmit serum hepatitis.

For many years infectious hepatitis has been recognized as a childhood disease (ages 5-17) usually not too virulent or serious. Epidemics were frequent in orphanages, summer camps, and military camps. It is believed many people have subclinical mild cases without jaundice, much as we now believe happens in poliomyelitis. The natural history of the disease supports the concept of a widespread immunity in the general population. Confirmatory evidence along this line is offered by the demonstration of the protective effect offered by human globulin when used early in the incubation period.

The use of gamma globulin to protect individuals exposed to hepatitis was first done by Stokes and Neefe[15] during a water borne epidemic at a summer camp for boys and girls in the Pocano Mountains in August, 1944. Two hundred and eighty-nine children out of five hundred and seventy-two had not already contracted hepatitis when the experiment was begun. There was enough globulin available to inject fifty-three children. Of the two hundred and forty-six children who were controls, hepatitis developed in seventy per cent of the girls and sixty-nine per cent of the boys. Of those given gamma globulin hepatitis developed in eighteen per cent of the girls and in thirteen per cent of the boys.

Similar successful results have been reported by Havens[16] in an epidemic occurring in a Catholic Children's Home in New Haven in 1945, and by the surgeons[17] in the Fifth Army in the Mediterrean Theater of Operations in an air bombardment group during early 1945.

The use of gamma globulin appears to be effective for a period of six to eight weeks[18]. Its effectiveness is enhanced by virtue of the long incubation period of the disease. There is, as yet, no evidence that globulin is effective once the active disease has begun. Human globulin has never been known to cause serum hepatitis following its injection.

Oliphant[19] has found that irradiation of an icterogenic serum, which was known to be capable of causing hemologous serum jaundice, for a period of six minutes, resulted in complete inactivation of the icterogenic agent. This method, if it could be practically carried out (at large donor centers) could theoretically eliminate all cases of homologous serum jaundice due to plasma transfusions.

10. Neefe and Stokes: Water Borne Infectious Hepatitis, *J.A.M.A.*, August 11, 1945.
11. Murphy, Petrie and Work: An Outbreak of Infectious Hepatitis, Apparently Milk Borne, *American Journal of Public Health*, February, 1946.
12. Read, Bancroft, Doull, and Parker: Infectious Hepatitis, Presumably a Food Borne Outbreak.
13. Havens: Epidemiological Studies of Infectious Hepatitis, *American Journal of Public Health*, January, 1946.
14. Kligler, Dtesh, and Koch: Observation of Two Epidemics of Infectious Hepatitis in Palestine Among Recent Immigrants, *Journal of Infectious Diseases*, June, 1944.
15. Stokes and Neefe: Prevention and Attenuation of Infectious Hepatitis by Gamma Globulin, *J.A.M.A.*, January 20, 1945.
16. Havens: Prevention of Infectious Hepatitis with Gamma Globulin, *J.A.M.A.*, September 22, 1945.
17. Gellis, *et al:* The Use of Human Globulin in Infectious Hepatitis, *J.A.M.A.*, August 11, 1945.
18. Stokes: The Use of Gamma Globulin From Large Pools of Adult Blood Plasma in Certain Infectious Diseases, *Annals of Internal Medicine*, March, 1947.
19. Oliphant: Experimental Inactivation of the Etiological Agent in Serum Hepatitis, *Public Health Reports*, April 26, 1946.

The virus of infectious hepatitis is not attenuated by the usual methods of water chlorination in which one part per million residual chlorine is left in the drinking water[20]. By a process of super chlorination in which fifteen parts per million residual chlorine is exposed to the drinking water for thirty minutes, marked attenuation of the virus is obtained.

Once the illness has developed, all authors agree on three cardinal principles of treatment. These are bedrest, a proper diet, and the avoidance of substances injurious to the liver.

Capps and Barker[21], in their planned study as to the management of 2,000 cases of infectious hepatitis, decided on the following criteria for the ambulatory status: 1. At least three weeks of bedrest. 2. The absence of a tender enlarged liver. 3. The absence of symptoms of nausea, weakness, and anorexia. 4. A normal serum bilirubin for one week. 5. A B.S.P. test of under five per cent retention in one hour.

For many years a diet of high caloric and high protein content has been advocated. Usually a low fat diet was recommended. Recently a series of thirty-three alternate patients at the Rockefeller Hospital[22] were fed a diet high in fat and high in protein. Their course was plotted against alternate cases of young Naval personnel fed a high protein, low fat diet. The observers found no untoward effect in either diet. Patients fed the high fat diet had less nausea, gained weight much earlier in their course of illness, and had a return of normal B.S.P. function on an average of eight days earlier than those men fed a low fat diet. Fats fed were from milk, cream, eggs, and butter, which are made up of a high content of unsaturated fatty acids and fatty acids of short carbon chains.

The main problems as far as toxic substances are concerned are the avoidance of ether anesthesia in the prodromal phases of hepatitis and abstinence from alcohol. At Camp Lee the use of alcohol has been at times a troublesome problem in the convalescent stages.

In the early stages of the disease when liver damage is severe and there is considerable water retention and scanty urine, judicious care should be used in the choice of medications and the choice of intravenous fluids. A fluid intake of 3,000 cc. daily is sufficient, and normal saline should be avoided unless there is great salt loss from vomiting or diarrhea. Vitamin K should be given if the patient shows bleeding tendency or if the prothrombin time is elevated. The dose should not be over 5 mg. parenterally. If this does not control the prothrombin time whole blood transfusions are indicated. For controlling abdominal pain atropine is preferred over morphine as the latter may have exaggerated and unpredictable effects in severe liver disease. Enemas are preferred over saline cathartics, and we have used pencillin rather than sulfadiazine when needed for intercurrent infections.

Infectious hepatitis was the only pandemic disease of our troops in the recent war. Because of its increased military and civilian importance, much clinical and experimental study has recently been done by many men. As a result, increased knowledge of the pathological processes, the etiology, the transmission, and the prevention of the disease has been gained. Also, a more rational guide to treatment has been evolved.

---

20. Neefe, Stokes, Boty, and Rheinhold: Disinfection of Water Containing Causative Agent of I.H., *J.A.M.A.*, August 11, 1945.
21. Capps and Barker: The Management of Inf. Hep., *Annals of Int. Med.*, March, 1947.
22. Hoagland, *et al.*: Analysis of the Effect of Fat in Diet on the Recovery of Infectious Hepatitis, *American Journal of Public Health*, November, 1946.

COLLES' FRACTURES*

THEODORE B. STRANGE, M.D.,
University of Virginia Hospital,
Charlottesville, Virginia.

Fractures occurring in the radius within one inch of the wrist joint were first described in 1814 by Abraham Colles in the Edinburgh Medical and Surgical Journal. Due to its common occurrence, it is one which the general practitioner is often called upon to treat. Unfortunately it is generally thought to be a simple type of fracture and is turned over to the first year interne. However, it is a difficult fracture to properly reduce, to maintain, and to tell when healing is sufficient to commence much needed wrist motion.

Three structures are disrupted in varying amounts in the average Colles' fracture. First, the radius, which is longer than the ulna by about 1 cm. in the adult, is shortened and may be of equal length or shorter than the ulna. Second, the distal end of the radius which is the proximal portion of the wrist joint and which normally has a facing of 15 degrees from the perpendicular with the tilt towards the palm of the hand, loses this facing to a varied degree. Third, the carpal ligaments which bind the radius and ulna together at the wrist are torn and there are varying amounts of separation between the ends of these bones.

To properly reduce this fracture, these three separate and distinct injuries must be corrected and maintained. The radius is looked upon as a continuation of the hand and wrist into the forearm, so it is obvious that proper reduction of this fracture is necessary for full use of the wrist and hand. A loss of length causes radial deviation, loss of facing causes dorsal angulation with friction of the flexor tendons over the anterior ridge giving rise to recurrent tenosynovitis, and lastly the unrestored carpal ligaments result in a weak, unstable and easily fatigued wrist.

1-a

1-b

In this clinic we employ the following method of reduction, immobilization and treatment. With the patient under a satisfactory general anesthetic, usually sodium pentothal, and with suitable counter traction at the elbow, the distal radial fragment is pulled in the line of deformity. A strong, steady pull will break up the impaction. Following this, the facing is restored by pressing the distal fragment in a palmar direction using both hands, one on each fragment holding it much as one would when breaking a stick over one's knee. Holding the reduction securely, the wrist is shaken up and down. The hand should move normally at the wrist if the fracture has been properly reduced. We often

*From the Department of Orthopedic Surgery, University of Virginia Hospital, Charlottesville, Virginia.

2-a

check the reduction by fluoroscopy before applying a cast and routinely take post reduction x-rays. A padded plaster of paris cast is applied over two to three turns of sheet wadding. Felt is applied to the bony prominences and pressure areas. The cast extends from below the elbow to the metacarpal phalangeal crease of the fingers and the thumb. The hand is held in 60 degrees of flexion and marked ulnar deviation at the corpo-radial joint to maintain the facing and the length respectively. As the plaster sets moderate pressure is applied over the distal ends of the radius and ulna so as to closely approximate these bones and thus correct the separation caused by the torn ligaments. The short arm cast permits a slight amount of motion. However, with comminuted fractures, a long arm cast is applied as rotation may cause a loss in length.

The follow up period is as important as the reduction. The fracture may tend to lose its length and facing in spite of perfect reduction. The critical period is between the seventh and tenth days. At this time soft callus has begun to form and in a

2-b

few days it is extremely difficult, if not impossible, to re-manipulate the fragments. Therefore, all Colles' fractures are checked by x-ray at this time. Any loss of length, facing, or spreading is readily corrected by wedging the cast. If wedging is unsuccessful, the cast is removed, the fracture re-manipulated under a general anesthetic, and a padded cast re-applied. In cases of great initial swelling, the cast must sometimes be split its entire length. As soon as the swelling has disappeared, a new cast is re-applied and position again checked by x-ray. The cast is bivalved at five to six weeks and the wrist is again x-rayed. The amount of callus determines the future treatment. If good heavy

2-c

callus is present, home hydrotherapy is instituted. This consists of active motion of the wrist for twenty to thirty minutes three times a day in a basin of hot water. As the fingers and elbow (except in comminuted fractures) have not been immobilized, these should not be stiff. Finger, elbow, and shoulder exercise are encouraged after the second x-ray re-check—seven to ten days. This prevents any stiffening in these joints and greatly enhances the wrist motion when the wrist in turn is removed from the cast. The bivalved cast is worn for another two weeks except for gradually increasing light exercise when a final x-ray is taken. If callus is adequate, the patient is discharged. Those that heal more slowly are carried over a proportionately longer period of time before discharge, but all receive mobilization in six weeks in the form of active motion.

A fair number of patients develop Sudeck's atrophy. This is characterized by persistent stiffness,

3-a

3-b

swelling, and circulatory impairment. X-rays will usually reveal a spotty atrophy in both rows of carpal bones as well as the metacarpals. These are treated by injection of the sympathetic ganglion and more recently the same effect of sympathetic releases is brought about by the use of tetra ethyl ammonium bromide. This drug is given either intravenously or intramuscularly in a 10 per cent solution (100 mg. per cc). The dose ranges from 100 mg. (1.0cc) to 500 mg. (5.0cc). Given intramuscularly the dose is 20 mg. per kilogram of body weight with the maximal dose 1.0 to 1.2 Gm. (10 to 12cc) with half the total volume in each buttock. Given intravenously a blood pressure cuff is used as a tourniquet and the patient is watched for a fall in blood pressure. Never more than 5cc is given intravenously.

A common error is to diagnose a reverse Colles' or Smith fracture as a Colles' fracture and to treat it as such. In this fracture the distal fragment of the radius is displaced in a palmar direction. Placing this fracture in a position of 60 degrees flexion of the wrist obviously increases the deformity. This fracture is usually held best with the hand in slight

3-c

3-d

4-a

cock-up position.

Improperly reduced Colles' fractures will cause injury to the flexor tendons as they pass over the sharp volar surface of the unreduced proximal fragment. This may progress from a fraying of the tendons to an actual rupture. Another tendon occasionally involved is the extensor pollicus longus. A small chip off the back of the articular margin of the radius which cuts the tendon is the cause of this complication.

In children, instead of the true Colles' fracture, one more often encounters a displacement of the radial epiphysis. Actually the epiphyseal separation is to be regarded as a fracture adjacent to the epiphyseal line and not through the epiphyseal disc. It is readily reduced using the same treatment

4-c

as in the routine Colles' but need not be immobilized as long nor in the extreme position of flexion and ulnar deviation (usual time, three weeks).

The following are a series of cases which illustrate the more common pitfalls into which the unwary bonesetter may fall.

CASE 1. J. A., 11 year old white boy fell off a

4-b

chinning bar just prior to being seen in the O. P. D., 11-13-45. Marked silver-fork deformity of wrist due to dorsal displacement of radial epiphysis resulted (Fig. 1A). Reduced under nitrous oxide anesthesia and short arm cast applied with hand in palmar flexion and ulnar deviation. Post reduction films showed good position. Patient returned eight

4-d

days later, 11-21-45. No complaints. Lateral film showed slight slipping of radial epiphysis in a palmar direction. Wrist remanipulated under general anesthetic same day and check film shows excellent position (Fig. 1B). Patient returned 12-19-45. Check film showed excellent final position. Example of juxta-epiphyseal fracture.

CASE 2. M. T., a 69 year old colored female was seen 12-22-45, four weeks after having injured her wrist. It was swollen and painful. X-rays revealed loss of facing, spreading, and slight loss of length (Fig. 2A). Placed in a volar splint with hand in ulnar deviation and palmar flexion. Seen one week

later, 12-29-45 and splint was in good condition. Returned 1-5-46. Splint removed and motion commenced. Seen 4-6-46 complaining of pain in the wrist. X-rays taken same day reveal the fracture completely healed with further shortening of the radius, loss of facing, spreading, and early signs of hypertrophic arthritis (Figs. 2B-C).

This is an example of an unrecognized, comminuted fracture of the radius. The end result is

5-a

radial shortening, loss of facing, and hypertrophic arthritis giving the patient a weak, painful wrist.

CASE 3. C. E., 48 year old white female first seen 11-20-45 with complaint of broken arm of several hours duration. X-rays same day showed a comminuted Colles' fracture (Fig. 3A). Manipulated under general anesthesia, long arm cast applied, and check films same day revealed excellent reduction (Figs. 3B-C). Patient returned one week later, 11-26-45, and check films showed good position. Returned 12-27-45, five and one half weeks after original injury when cast was removed and x-rays taken (Fig. 3D). There was loss of length and facing. Patient started on home physiotherapy, wearing bivalved cast remainder of time. Returned 1-10-46 for final check. Wrist motion is good and wrist painless. To continue home physiotherapy and avoid heavy work for one month.

Example of comminuted fracture showing how difficult it is to maintain reduction.

CASE 4. J. M., 37 year old white male injured right wrist four months before being seen. This reverse Colles', or Smith fracture, associated with a fractured ulna had been treated as a Colles' fracture by his local physician. Reduction had been attempted on three occasions with immobilization by board splints. Physical examination revealed a markedly deformed wrist with dorsal angulation of distal end of proximal fragment of radius with motion limited to 15 degrees of extension and flexion. X-rays dated 4-17-47 (Figs. 4A-B). On April 18, 1947 an open reduction was performed. The distal ends of the ulna and the shaft of the radius were resected. The distal end of the radius was then levered into better position. This was placed in a cast with the hand in dorsi-flexion and checked by x-ray 4-21-47. The position of the hand is much improved and in a far better physiological position for grasping. A final x-ray out of the cast was taken 6-2-47 (Fig. 4C-D). The functional result when seen six months later was found to be nearly normal.

This is an example of an unrecognized reverse Colles' fracture which was treated as a Colles' fracture with disastrous results.

CASE 5. F. R., a 55 year old white female injured her left wrist in a fall three and a half weeks previously resulting in a simple fracture of the distal end of the radius. This was reduced immediately and placed in a cast. The cast had to be removed in nine days due to swelling and exquisite tenderness. The hand, wrist, and distal end of the forearm were splinted but the wrist remained very painful and the skin dark in color and shiny in appearance. X-rays 5-1-45 revealed a Sudeck's atrophy (Fig. 5A). A dorsal sympathectomy, left, was performed May 4, 1945. The patient noticed immediate improvement being able to move her fingers better and there was loss of pain.

This is a good example of Sudeck's atrophy following a relatively minor injury to the wrist which was helped by a dorsal sympathectomy.

CONCLUSION

1. Colles' fractures are not as simple as they are commonly regarded.
2. The frequent complications are listed and the treatment outlined.
3. The use of tetra ethyl ammonium bromide as an agent for sympathetic release is discussed.

BIBLIOGRAPHY

1. The Use of Tetra-Ethyl Ammonium in Peripheral Vascular Disease and Causalgic States by R. L. Berry *et al. Surgery* **20**: No. 4, October, 1946.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Anti-Vivisectionists

Here they come!

Who are they?

The anti-vivisectionists—those people who are organized for the purpose of preventing the use of animals in the study of medical science.

Perhaps life is universally man's greatest concern. No wonder health and medical care seem to be so important. Yet some may fail to realize how dependent we have been, and will continue to be, on medical research. Someone has well said that "We must study life to protect life".

The National Society for Medical Research, 25 East Washington Street, Chicago 2, Illinois, is leading a nation-wide fight to preserve the freedom of scientific research in medicine, under the presidency of Dr. Anton J. Carlson. Dr. A. C. Ivy is secretary-treasurer of the organization, which publishes an excellent monthly bulletin. This Society also has posters on medical progress and medical experimentation which are available to medical or health agencies on request.

It has also been noted that "Driftwood", a Republic motion picture, dramatically portrays the benefits of animal experimentation. In addition, the July 24 issue of *The Saturday Evening Post* contains an article entitled "They Are Trifling With Your Life", by Virgil H. Moon, Professor Emeritus of Pathology at Jefferson Medical College, Philadelphia. This article tells of the sinister motivations and financial ramifications of the anti-vivisectionist movement.

The September 11 issue of the *Journal of the A.M.A.* also contains a reference to this subject.

A great deal of money and energy have been spent in a number of states in legislative fights with anti-vivisectionists. This represents a waste that we should not like to incur in Virginia, but we have no assurance that we shall avoid it. Perhaps being informed, and helping others to understand this subject, constitutes our best safeguard. This is a matter that concerns us and should be of interest to your patients.

Radio Programs

Radio stations in Martinsville, Staunton and Suffolk have recently inaugurated the "Tell Me Doctor" series, making a total of 11 stations now broadcasting these programs on health and medical care.

The latest additions are:

WMVA, Martinsville, Monday through Friday. Consult newspaper for time

WTON, Staunton, 1:57 p.m., Monday, Wednesday and Friday

WLPM, Suffolk, 4:35 p.m., Monday through Friday

A twelfth station, WPIK in Alexandria, is scheduled to broadcast the program each Tuesday at 10:05 a.m., beginning October 5.

District Council Meeting

Members of the District Council in the Second Congressional District attended a dinner meeting on the evening of Wednesday, September 8, at the Portsmouth Hotel, Portsmouth. Dr. C. Lydon Harrell, of Norfolk, Councilor for the District, presided.

The first speaker on the program was Mr. Henry S. Johnson, Director of Public Relations, whose topic was "Our Public Relations Program".

Mr. R. B. Almack, Director of the Division of Hospital Survey and Construction in the State Department of Health, told of "The Hospital Construction Program in Virginia", while Dr. George A. Duncan, of Norfolk, spoke on "Voluntary Prepayment Medical Care and Hospitalization", with special reference to conditions in Tidewater Virginia.

The Associate Editor of the *Norfolk Virginian-Pilot,* Mr. William Shands Meacham, told of the history and accomplishments of the Virginia Council on Health and Medical Care, of which he was formerly the Executive Director. He still serves on the Executive Committee of the Council.

"The Present Need for Medical Public Relations" was the topic of Dr. John T. T. Hundley, member of the District Council from the Lynchburg Academy of Medicine in the Sixth Congressional District.

Dr. Walter B. Martin, of Norfolk, a member of the Board of Trustees of the American Medical Association, made a number of excellent summarizing observations.

In closing, Dr. M. Pierce Rucker, of Richmond, President-Elect of the Medical Society of Virginia, had several interesting comments to make.

In addition to the regular program, there was considerable informal discussion on various points pertinent to a public relations program. During this, Dr. R. M. Cox, member of the District Council from Portsmouth, expressed concern over several items and urged more definite and progressive action.

Members of the District Council who were present included Drs. W. Holmes Chapman, Suffolk; N. F. Rodman, Norfolk, and Dr. Cox. The following members of the Norfolk County Medical Society Public Relations Committee attended: Drs. M. S. Fitchett, B. R. Kennon and Robert Matthews, of Norfolk, and K. W. Howard, Portsmouth. Drs. Ira L. Hancock, Creeds, President of the Princess Anne County Medical Society, and H. W. Rogers, Norfolk, President of the Norfolk County Medical Society, were also present.

Local arrangements in Portsmouth were well handled by Drs. Cox and Howard.

Shortage of Medical Personnel

The matter of recruitment of medical personnel has been of some concern in the Department of Public Relations and among members of the profession generally in the state.

It was agreed in one of the conferences for members of the District Council six months ago that a definite plan for recruitment of nurse trainees should be tried out and participated in by physicians in that Congressional District.

A component Medical Society in another District has more recently adopted a resolution on this subject, and it is anticipated that the matter is likely to be brought before the House of Delegates of the Medical Society in October as suggestive of possible state-wide efforts in this regard.

Perhaps a few more details should be considered in the meantime by all concerned, but it is believed that these efforts are in the right direction and that they could prove valuable in the solution of a well-recognized problem—the shortage of medical personnel.

Veterans Medical Care Program

The Veterans Affairs Committee (sometimes referred to as the Review Board) held its second meeting on Friday, September 10, at the Richmond Academy of Medicine Building. This committee's chief concern is with the functioning of the Veterans Medical Care Program. Dr. Patrick H. Drewry, Jr., Medical College of Virginia, is serving as Chairman.

It was obviously the consensus of the committee that it should work as closely as possible with the Fee Schedule Committee, headed by Dr. J. M. Emmett, Clifton Forge, in consideration of references to fees that had been brought to its attention. The committee also felt that a close working relationship with the Veterans Administration could be helpful and suggested procedures to effect this.

All matters to date bearing on this subject were discussed in detail, appropriate action was taken and plans were made for any necessary future meetings.

Urology Award.

The American Urological Association offers an annual award of $1000.00 (first prize of $500.00, second prize $300.00 and third prize $200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

The first prize essay will appear on the program of the forth-coming meeting of the American Urological Association, to be held at the Biltmore Hotel in Los Angeles, May 16-19, 1949.

For full particulars write the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis 3, Tennessee. Essays must be in his hands before February 15, 1949.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for August, 1948, as compared with the same month in 1947, and for the period of January through August, 1948, compared with the same period in 1947, is as follows:

	Aug. 1948	Aug. 1947	Jan.-Aug. 1948	Jan.-Aug. 1947
Typhoid and Paratyphoid	13	17	94	70
Diarrhea and Dysentery	604	551	2,760	3,625
Measles	97	112	6,063	7,439
Scarlet Fever	16	49	611	894
Diphtheria	10	11	143	156
Poliomyelitis	154	33	263	59
Meningitis	7	10	64	81
Undulant Fever	3	7	60	50
Rocky Mountain Spotted Fever	19	14	57	54
Tularemia	5	6	41	39

UNDULANT FEVER (BRUCELLOSIS)

A continued high prevalence of Undulant Fever in Virginia during 1948 warrants reviewing the present data. Approximately 5,000 cases are reported annually in the United States to health departments, and it is reliably estimated that there are actually more than 30,000 cases unreported. In Virginia the number of cases averaged 32 per year for 10 years preceding 1946. Since that time this number has doubled. For the first nine months of 1948 there have been already reported 65 cases.

The State Health Department, together with the State Department of Agriculture, has been working on efficient handling of the situation as infection in Virginia is largely due to Brucella Abortus contracted directly or indirectly from cattle infected with Bang's Disease, and or, B. Suis of hogs. Veterinarians generally recommend vaccination of calves with strain 19 of the vaccine.

In human infections reported in Virginia, ages have varied from 4½ years to 90 years, the mean age being 40.8. Suggested possible source of infection is in the handling and slaughtering of infected cattle and hogs, as well as the use of unpasteurized milk and milk products.

In making the diagnosis, the physician finds clinically an irregular recurring fever and symptoms frequently which may resemble typhoid, influenza, tuberculosis, malaria or tularemia. A specimen of blood in a definite case will show positive agglutination during the 2nd or 3rd week or later. Also in a definite case the titre fluctuates with the disease and goes from 1-80 to 1-200, or even as high as 1-4,000. A negative agglutination does not rule out infection especially if blood is taken during the 1st or early part of the 2nd week.

The treatment accepted consists of combination of the sulpha drugs and streptomycin-vaccine has been used. Bed rest and supportive treatment during febrile period is indicated.

BIBLIOGRAPHY

1. Brucellosis in United States (Editorial), *J.A.M.A.* **134**:786, June 28, 1947.
2. Dykstra, L. A.: Vaccination Bovine Brucellosis, *J.A.V.A.* **110**:96, February, 1947.
3. Steinberg, C. L.: Brucellosis as a Case of Sacroiliac Arthritis, *J.A.M.A.* **138**:15, September 4, 1948.

BOOK ANNOUNCEMENTS

Essentials of Pathology. By LAWRENCE W. SMITH, M.D., F.C.A.P., Formerly professor of pathology, Temple University School of Medicine; Formerly assistant professor of pathology, Harvard Medical College, etc. and EDWIN S. GAULT, M.D., F.C.A.P., Associate professor of pathology and bacteriology, Temple University School of Medicine. Third Edition. The Blakiston Company, Philadelphia. 1948. 764 pages. 740 illustrations. Cloth. Price $12.00.

Preoperative and Postoperative Care of Surgical Patients. By HUGH C. ILGENFRITZ, A.B., M.D., F.A.C.S., Formerly assistant professor of surgery, Louisiana State University School of Medicine; Visiting surgeon, Charity Hospital of Louisiana at New Orleans, with Foreword by URBAN MAES, M.D., D.Sc., F.A.C.S., Emeritus professor of surgery, Louisiana State University School of Medicine; etc. St. Louis, The C. V. Mosby Company. 1948. 898 pages. 110 illustrations. Cloth. Price $10.00

Advances in Pediatrics. By S. Z. LEVINE, Cornell University; ALLAN M. BUTLER, Harvard Medical School; L. EMMETT HOLT, JR., New York University; A. ASHLEY WEECH, University of Cincinnati. Volume III. Interscience Publishers, Inc., New York. 1948. ix-363 pages. Cloth. Price $7.50.

Practice of Allergy. By WARREN T. VAUGHAN, M.D., Richmond, Virginia. Revised by J. HARVEY BLACK, M.D. Dallas Texas. Second Edition. St. Louis, The C. V. Mosby Company. 1948. 1132 pages. 333 illustrations. Cloth. Price $15.00

The Battle of the Conscience. A Psychiatric Study of the Inner Working of the Conscience. By EDMUND BERGLER, M.D. Washington Institute of Medicine, Washington, D. C. 1948. x-296 pages. Cloth. Price $3.75.

This book is a psychiatric study of the inner working of the conscience. It is a psychoanalytical approach. In the first chapter, the author dwells on the origin of the pre-stages of conscience. He refers to continence, restraint of the child from biting and tearing of the mother's breast or breast equivalents, as well as other rules forced upon the child in the first two years and how later they become a specific part of his educational program. Guilt feelings are imposed by reference to unavoidable masturbation, enuresis. The author gives as the first reason for abstaining from aggressive acts prohibited by the educator is fear of loss of love or fear of punishment, secondarily the educators are internalized and thus the pre-stages of inner conscience are built up.

In his chapter on normal and neurotic inner feeling of guilt, he dwells on the unconscious part of the personality with special reference to the trial, Id, super ego and the unconscious ego. His explanation of the mechanisms involved in the normal and the neurotic aspects is well expressed. He refers to unconscious wishes and defense mechanisms stemming from early childhood. The author gives practical examples to explain his points.

In later chapters in his book, he explains the mechanism of identification, sublimation and rationalization. He explains depression and suicidal tendencies. One chapter deals mainly with torturing dreams and insomnia caused by guilt.

The author sums up his book referring to the basic elements of conscience as being indestructible. "Conscience is a dynamic force which under specific conditions may lead humanity to a better and safer world in which to live. Optimists assure us that the battle of the conscience will be won".

This book is recommended mainly to get the psychoanalytic approach in explaining the unconscious conscience; to become acquainted with unconscious mechanisms present in the dynamics of personality behavior.

I feel that it is good reading for psychiatrists, practitioners, medical students who have entered the clinical stage of their education and for nurses who are especially interested in psychiatry.

V. E. L.

American Medical Research Past and Present. RICHARD H. SHRYOCK, Ph.D., Professor of History and Lecturer in Medical History, University of Pennsylvania; Acting Director, American Council of Learned Societies. New York, The Commonwealth Fund, 1947. xv-350 pages. Cloth. Price $2.50.

In this scholarly monograph, Dr. Shryock has traced for the first time the story of the development of medical research in the United States. As a distinguished general historian, the author commands the techniques of the professional historian. Moreover, with a sympathetic interest in science as it has affected the course of history, Dr. Shryock has been able to give a new and unbiased appraisal of the forces which have shaped medical and scientific thought, particularly the impact of major contemporary political, social and economic events.

The author traces his subject from the British, French and German influence on American medical research, through the emergence of American medicine to a level of cultural independence and on to the present and future problems of medical research on the vast national scale now necessary. The reader will find here valuable discussion of the role of medical research in our changing social order and the means by which it can be supported and fostered. In view of the vital significance of basic medical research as a part of the national resource, these problems and their solution are of utmost importance.

This monograph is produced under the auspices of the Committee on Medicine and the Changing Order of the New York Academy of Medicine.

E. C. H.

Presidents of the Medical Society of Virginia

President	Year of Meeting
*Dr. James McClurg, Richmond	1821
*Dr. William Foushee, Richmond	1822
*Dr. William Foushee, Richmond	1823
*Dr. James Henderson, Richmond	1824
Meetings Discontinued.	
*Dr. Robert William Haxall, Richmond	1841
*Dr. Robert William Haxall, Richmond	1842
*Dr. Frederick Marx, Richmond	1843
*Dr. Thomas Nelson, Richmond	1844
*Dr. William A. Patteson, Richmond	1845
*Dr. William A. Patteson, Richmond	1846
*Dr. John A. Cunningham, Richmond	1847
*Dr. William A. Patteson, Richmond	1848
	1849
*Dr. Robert William Haxall, Richmond	1850
*Dr. Beverley R. Wellford, Fredericksburg	1851
*Dr. James Beale, Richmond	1852
*Dr. Thomas P. Atkinson, Danville	1853
*Dr. Carter P. Johnson, Richmond	1854
*Dr. H. C. Worsham, Dinwiddie	1855
*Dr. H. C. Worsham, Dinwiddie	1856
*Dr. James Bolton, Richmond	1857
*Dr. Levin S. Joynes, Richmond	1858
Meetings Discontinued	
*Dr. R. S. Payne, Lynchburg	1870
*Dr. R. S. Payne, Lynchburg	1871
*Dr. A. M. Fauntleroy, Staunton	1872
*Dr. Harvey Black, Blacksburg	1873
*Dr. A. G. Tebault, London Bridge	1874
*Dr. S. C. Gleaves, Wytheville	1875
*Dr. F. D. Cunningham, Richmond	1876
*Dr. J. L. Cabell, University	1877
*Dr. J. H. Claiborne, Petersburg	1878
*Dr. L. S. Joynes, Richmond	1879
*Dr. Henry Latham, Lynchburg	1880
*Dr. Hunter McGuire, Richmond	1881
*Dr. G. W. Semple, Hampton	1882
*Dr. W. D. Cooper, Morrisville	1883
*Dr. J. E. Chancellor, Charlottesville	1884
*Dr. S. K. Jackson, Norfolk	1885
*Dr. Rawley W. Martin, Chatham	1886
*Dr. Bedford Brown, Alexandria	1887
*Dr. Benjamin Blackford, Lynchburg	1888
*Dr. E. W. Row, Orange C. H.	1889
*Dr. Oscar Wiley, Salem	1890
*Dr. W. W. Parker, Richmond	1891
*Dr. H. Grey Latham, Lynchburg	1892
*Dr. Herbert M. Nash, Norfolk	1893
*Dr. Wm. P. McGuire, Winchester	1894
*Dr. Robt. J. Preston, Abingdon	1895
*Dr. Wm. L. Robinson, Danville	1896
*Dr. Geo. Ben Johnston, Richmond	1897
*Dr. Lewis E. Harvie, Danville	1898
*Dr. Jacob Michaux, Richmond	1899
*Dr. Hugh T. Nelson, Charlottesville	1900
*Dr. J. R. Gildersleeve, Tazewell	1901
*Dr. R. S. Martin, Stuart	1902
*Dr. J. N. Upshur, Richmond	1903
*Dr. Joseph A. Gale, Roanoke	1904
*Dr. Wm. S. Christian, Urbanna	1905
Dr. Lomax Gwathmey, Norfolk	1906
*Dr. Paul B. Barringer, Charlottesville	1907
*Dr. Wm. F. Drewry, Petersburg	1908
Dr. Stuart McGuire, Richmond	1909
*Dr. E. T. Brady, Abingdon	1910
*Dr. O. C. Wright, Jarratt	1911
*Dr. Hugh M. Taylor, Richmond	1912
*Dr. Southgate Leigh, Norfolk	1913
*Dr. Stephen Harnsberger, Catlett	1914
*Dr. Samuel Lile, Lynchburg	1915
*Dr. Joseph A. White, Richmond	1916
*Dr. Geo. A. Stover, South Boston	1917
*Dr. Ennion G. Williams, Richmond	1918†
*Dr. Ennion G. Williams, Richmond	1919
*Dr. Paulus A. Irving, Farmville	1920
*Dr. Alfred L. Gray, Richmond	1921
*Dr. E. C. S. Taliaferro, Norfolk	1922
*Dr. John Staige Davis, University	1923
*Dr. W. W. Chaffin, Pulaski	1924
Dr. Hunter H. McGuire, Winchester	1925
Dr. W. L. Harris, Norfolk	1926
*Dr. J. Shelton Horsley, Richmond	1927
*Dr. J. W. Preston, Roanoke	1928
Dr. J. Bolling Jones, Petersburg	1929
*Dr. Charles R. Grandy, Norfolk	1930
*Dr. J. Allison Hodges, Richmond	1931
Dr. I. C. Harrison, Danville	1932
*Dr. J. C. Flippin, University	1933
Dr. R. D. Bates, Newtown	1934
*Dr. F. H. Smith, Abingdon	1935
Dr. P. St. L. Moncure, Norfolk	1936
Dr. J. M. Hutcheson, Richmond	1937
*Dr. G. F. Simpson, Purcellville	1938
Dr. A. F. Robertson, Jr., Staunton	1939
Dr. H. H. Trout, Roanoke	1940
Dr. W. B. Martin, Norfolk	1941
Dr. Roshier W. Miller, Richmond	1942
Dr. J. M. Emmett, Clifton Forge	1943
*Dr. C. B. Bowyer, Stonega	1944
Dr. H. B. Mulholland, Charlottesville	1945
*Dr. Julian L. Rawls, Norfolk	1946
Dr. W. L. Powell, Roanoke	1947
Dr. Guy R. Fisher, Staunton	1948

*Deceased.

†Owing to influenza epidemic during World War I, the council met in 1918, and Dr. Williams was continued as President.

EDITORIALS

Community Fund Agencies

SUMMER is over, the children are back in school and the season for Community Fund Drives and Thanksgiving is at hand. The Richmond fund raising is October 12-27. Other funds and dates are:

Norfolk, October 11-22	Newport News, October
Roanoke, October 11-22	Lynchburg, October 18-23
Alexandria, October 7-November 4	Arlington, October 7-November 6
Winchester, October 8-22	Martinsville, October
Blacksburg, October 11-22	Charlottesville, October 15-30
Danville, October 7-15	Fairfax County, September 30
Hopewell, October	Petersburg, October 11-15

The Richmond Fund is celebrating its 25th anniversary.

Recently we had the privilege of going on a tour of inspection of two of the Agencies in the Richmond Community Fund: The Richmond Home for Boys and the Virginia Home for Incurables. The one supplies boys from disrupted homes with a home until they can make a home for themselves in the world. The other, as its name implies, supplies a home for the hopelessly afflicted until they die. We were surprised at the happy and cheerful atmosphere of both institutions. Naturally we were interested in the kind of medical attention the inmates of these institutions receive. The Richmond Home for Boys has a well equipped infirmary, and when hospital treatment is necessary the boys are sent to the Sheltering Arms Hospital. Every boy is given a routine physical examination once a year and recommendations, such as T & A operations, circumcisions, hernia operations, eye examinations, dental work, skin infections, poor posture are attended to promptly. The medical staff is an impressive one. Dr. Oscar Hite is chairman. The other members are: Drs. Thomas E. Hughes, John C. Tyree, J. E. Warinner, R. D. Butterworth, J. B. Dalton, Webster P. Barnes, Donald S. Daniel, Allen Pepple, Richard Fowlkes, Rudolph C. Thomason, Luther C. Brawner and Edgar C. Childrey, Jr.

At the Home for Incurables, the medical staff is equally outstanding. Dr. Henry Decker is chief of staff and Dr. Morris Pinckney the head of the medical staff. On active call are Drs. Samuel W. Budd, Jr., Robley Bates, Jr., James O. Burke, William Higgins, Jr., Gilman Tyler, John Lynch and Henry Decker. Dr. Finley Gayle is the psychiatrist, Dr. James T. Tucker the orthopedist, Dr. Thomas Murrell the dermatologist, Dr. Fred Hodges the roentgenologist, Drs. F. H. Lee and H. St. George Tucker, Jr., the ear, nose and throat specialists. Drs. Douglas Chapman, Dewey Davis, Charles Nelson and Frank Pole are consultants.

Other agencies make use of physicians' time and skill. Drs. Rex Blankinship and Elam Toone are of the Board of the Family Service Society and give their professional advice. Dr. William Bickers is obstetrician and Dr. Emily Gardner the pediatrician for the Evangeline Booth Home and Hospital. Drs. George White, Everett White and Felix Brown give their services to the Friends Association for Colored Children. Dr. Joseph T. Byrne looked after the boys attending Camp Shawondassee of the Boy Scouts of America. The following served in the cancer control clinics: Drs. Herbert Lee, Edward S. Ray, R. H. Hoge, Everett Evans, M. J. Hoover, Richard Cecil, I. A. Bigger, A. B. Gathright, Jr., B. W. Rawles, Jr., DeWitt Daughtry, G. Watson James, Reuben Simms, St. George Tucker, William D. Suggs, Philip Cole-

man, J. O. Burke, Spotswood Robins, Edwin Rucker, Albert Hill, Jerome Shapiro, J. Robert Massie and Kenneth Cherry.

It is quite evident that the medical profession is giving the best it has to the Community Fund Agencies. The doctors not only give their professional services, but get out and work in the campaign for funds. We have not checked the other Virginia cities, but we are confident the same is true there. No doubt the public thinks that the doctors are paid for these medical and surgical services. We would suggest some such term as "honorary" be prefixed to their titles, such as honorary chief of staff, honorary attending staff, honorary consultant, etc. The public should know such things.

Balneology

ROMAN baths connote leisure, luxury, licentiousness, and even lasciviousness all combined in a setting of beautiful gardens and sumptuous architecture. Neither an individual nor a nation that has to struggle for existence has need of a public bath. When however they have leisure and have accumulated a little money, there is a place for balneology. The Romans were great sanitary engineers and they built roads, aqueducts and baths wherever they conquered. The Roman remains at Bath are the most extensive in England. However Bath and the other less well known resorts did not become popular until the sixteenth century. The search, pretended or real, for health at that time, stimulated physicians to action and after 1560 they strove to make balneotherapy as popular in England as it had been for a long time on the continent. Mullett has collected 470 references to the "waters" and of these 234 were books, most of which went through more than one edition.

A list of diseases that are benefited includes about all the chronic diseases the human flesh is heir to. Turner, one of the early writers, was of the belief that waters partaking of iron and sulphur and being cool and dry were proper antidotes for all kidney and bladder ailments, rheumatism, the short winded, and "cold phlegmatic men that would gladly have children and have none". Where iron constituted the chief mineral, the waters cured all manner of itch, numbness, diseases of the joints, stiffness of the sinews, dizziness of the head, and gnawings of the stomach. Ulcers, the stone, melancholy, weakness of the limbs, swellings, worms, scurvy and the falling sickness were all benefited. One spring in Henry First's time had a reputation for curing leprosy. An anonymous correspondent of the Royal Society described several German springs, one of which was good for epilepsy, but was so strong that birds died in convulsions after drinking from it. Borlase, who died in 1682, added women's diseases and gonorrhoea to the list. Robert Boyle (1627-91) inquired into the virtues of the sea especially against hydrophobia. Sir William Beeston described a hot bath in Jamaica which cured stomach disorders, the pox and ulcers. Sir John Floyer wrote the *History of Cold Bathing* which went through six editions. Cold bathing, he said, was fitting for Englishmen because in a cold climate it meant less change from the bath to the environment. He quoted Galen and John Locke to the effect that it was good for corns. However, asthma and "decayed viscera" required other treatment. The celebrated George Cheyne, in his treatise on the gout, said that the waters of Bath illustrated the wisdom of Providence in furnishing an antidote to almost all the chronical distempers of an English constitution and climate which chiefly resulted from errors of diet, rankness of soil, richness of provisions, living so much on meat, inconstancy of the weather and indulging in sedentary amusements or speculative studies. They benefited gouty persons because they contained

sulphur and other curative elements. Their warmth just suited the wants of nature, being a little warmer than the body, encouraging the circulation by relaxing the stiff fibres. Their taste was agreeable. They were good for jaundice, scurvy, stone, hysteria, melancholy, rheumatism, digestive disorders, morning sickness, barrenness and difficult menstruation.

For best results a certain regimen should be followed. A person should start with drinking 3 pints, gradually increasing to 8 or 9. He should drink slowly, walking a little between drinks. He should not stand in the sun nor sit on the cold ground. Finally while taking the waters and for a month or two afterwards the patient should be temperate, even spare, in his diet. While bathing the patient should keep his head covered, "be quiet from swimming, or much motion which may offend the head by sending up vapours thither," dry his body well and rest in bed afterward for an hour. The best time for bathing was an hour after sun-up and the best season was summer. A person should stay no longer than an hour in a hot bath or two hours in a temperate one. Many writers stressed the importance of being under the care of a physician. A purge was advantageous before starting the treatment. Some recommended a "gentle vomit" in addition. To relieve the dreadful monotony of the cure there was the theater and gambling. Count de Grammont was impressed with the excellent appurtenances and entertainment of every sort, "high stakes and love making in abundance". It attracted all sorts of persons. *Peter Porcupine* defined a watering resort as a place to which East India plunderers, West India floggers, English tax-gorgers, together with gluttons, drunkards and debauchees of all descriptions, female as well as male, resort, at the suggestion of silently laughing quacks, in the hope of getting rid of the bodily consequences of their manifold sins and iniquities . . . gamesters, pick-pockets, and harlots, young wife hunters in search of rich and ugly and old women, and young husband-hunters in search of rich and wrinkled and half rotten men. Long before the time of *Peter Porcupine* problems of a social nature followed the influx of divers persons, since mixed bathing in the nude survived until 1621. Tobias Smollett (1721-71) who praised the "waters" both of Bath and the sea, deplored promiscuous bathing, holiday bath chairs, the lack of guides, and called for proper fees, a convenient number of chairs and quiet.

One phase of the spring business related to bottled water that was shipped far and wide for home consumption. When the relationship of uric acid to gout was discovered and it was found that uric acid *in vitro* was soluble in water containing salts of lithium, great numbers of lithia waters appeared on the market. It was years before the fallacy that lithia water dissolved uric acid *in vivo,* was exploded. Today one rarely hears of lithia water.

Such extravagant claims made for the waters, and the many freaks who frequent the resorts, have made balneology more or less a laughing stock. The situation seems made to order for cartoonists and satirists, and yet the baths have stood the test of time. Year in and year out, in flush times and bad, a host of chronic sufferers have gotten relief. They are not the folk that make the front pages of the newspapers. There must be some virtue in the regimen or these people would not keep coming.

This question is especially interesting to Virginians for two reasons: (1) The Virginia Springs area in the Alleghany Mountains contain a great variety of well known springs; (2) At the Medical College of Virginia is one of the centers of the Baruch Foundation for the study of Physiotherapy. Before the war, meaning 1861-65, this area was patronized by wealthy people from all over the South and the Atlantic Seaboard. Presidents and statesmen were frequent guests. Although the patrons came by stage coach or private carriages, the popular resorts like the White

Sulphur Springs turned away great numbers every season. Times have changed and most of these famous resorts have closed up. The old Sweet is an old folk home. The Salt Sulphur looks like a ghost mining town and the Sweet Chalybeate like the habitation of ghosts. Only the Greenbrier and the Homestead have survived and they have become resorts comparable to the best European spas. Each is equipped for various forms of hydrotherapy and physiotherapy, and both have excellent physicians in charge. Places like these should become more and more important, especially since statistics show that the population is rapidly getting older.

James King Hall, A.B., M.D., LL.D., 1875-1948

IN the death of Dr. James K. Hall on September 10th, the *Monthly* lost its most helpful reader. Apparently he read everything in the journal for he frequently wrote very welcome letters to the editor upon the greatest variety of subjects. Sometimes there was a word of praise, and sometimes there was a tactful criticism. Sometimes he called our attention to some error of omission and sometimes there was a suggestion as to what we should do. Frequently it was a little historical or biographical note in reference to some medical man or some hero or heroine of the Confederacy. To those who knew Dr. Hall there is no need to explain there was never anything at which one could take offense. His criticisms were couched in such delightful language that the editor felt complimented that Dr. Hall had noticed his shortcomings.

Dr. Hall was born in Piedmont, North Carolina, September 28, 1875, the son of Dr. Eugenius A. Hall and Amanda McCullough (Howard) Hall. Dr. Eugenius Hall was a well known country doctor of North Carolina. James K. Hall earned his A.B. degree at the University of North Carolina in 1901 and in 1935 his *Alma Mater* conferred upon him the honorary degree of LL.D. He graduated in Medicine at the Jefferson Medical College in 1904. After serving as interne in the Philadelphia Polyclinic Hospital, he became assistant physician to the State Hospital in Morganton, N. C. In 1911 he was one of the founders of the Westbrook Sanatorium, and since that date he has lived in and been a part of Richmond. He has taken an active part in the medical and political affairs of his adopted state, but he remained throughout a loyal son of North Carolina. He maintained his membership in the North Carolina Medical Society and was an associate editor of *Southern Medicine and Surgery* (Charlotte).

He was a pioneer in modern psychiatry and did much to advance his specialty in the South. Dr. Hall was a member of the National Committee on Mental Hygiene, the American Psychiatric Association, (president in 1941-42), Association of Private Psychiatric Hospitals (president in 1940-41), the American Medical Association, the Medical Society of Virginia (vice-president 1933-34), Richmond Academy of Medicine (president 1922), Tri-State Medical Association of Virginia and the Carolinas (president 1928-29), Southern Psychiatric Association (president 1942), American Association on Mental Deficiency, the American College of Physicians, the American Academy of Political and Social Science, the American Association for the Advancement of Science, and the Virginia Academy of Science. He was associate editor of *Diseases of the Nervous System.* For several years he was a member of the State Hospital Board of Virginia and was chairman of the Governor's Board on Criminal Mental Hygiene. He was a Phi Beta Kappa and a member of the Commonwealth Club.

A recounting of his various societies and honors shows Dr. Hall's widespread in-

terests and activities, but indicates only inadequately his real worth and gives no indication whatever of his whimsical humor or his delightful and charming personality. To realize that, one had only to serve on some committee with him. At the State Society meetings he and the late Dr. Lowndes Peple always roomed together. Both were master recounters and no one knows all the stories these two concocted at such times. At the first meeting over which we presided as president of the Richmond Academy, Dr. Peple had a paper on uterine hemorrhage. We had promised the Academy that the meetings would begin and end on time and that the essayists would be held to the time limit set by the by-laws. Dr. Peple began by explaining that his paper had been prepared for the state meeting, but that the "presiding elder" sat with a watch in one hand and a gavel in the other and called out the essayists so fiercely that he lost his nerve and did not present his paper. The present "presiding elder", he said, was a kindly man, who, he felt sure, would allow him to complete his presentation. When he had finished reading his paper, Dr. Hall got up to discuss it. He began by describing the Battle of Seven Pines in great detail. When he got to the second day he told of a group of Union officers, one of whom handed his field glasses to a nearby soldier and asked him if he wanted to see General Lee, the new Commander-in-Chief of the Confederate Army. That soldier was Jack DaCosta, Dr. Hall said, "and it was he who first told me about radium."

In 1912 Dr. Hall married the former Miss Laura Witherspoon Ervin of Morganton, N. C. He is survived by his wife and their three sons, James King Hall, Jr., Dorman Thompson Hall and Samuel Ervin Hall.

SOCIETIES

Virginia State Board of Medical Examiners.

At the meeting of the Board in June 1948, the following were granted licenses by examination to practice in Virginia:

Name	Address
Dr. Norman N. Adler	Brooklyn, N. Y.
Dr. Robert Dea Ailsworth, Jr.	Deltaville.
Dr. Wilbur Franklin Amonette, III	Radford
Dr. Dan Norman Anderson	Richmond
Dr. Harry Paul Austin	Charlottesville
Dr. Benjamin Philo Baker	Roanoke
Dr. Guy Joseph Barrow	Richmond
Dr. Wm. Phillips Bass	Charlottesville
Dr. Joseph Wolfe Bear, Jr.	Roanoke
Dr. Robert Wright Bedinger	Madison
Dr. Doris Ada Berlin	Richmond
Dr. Elbert Lowell Berry	Charleston, W. Va.
Dr. Arthur King Black	Birmingham, Ala.
Dr. Russell Eldridge Blankinship, Jr.	Lynchburg
Dr. Randolph Graham Bradshaw	Charlottesville
Dr. Ralph Brown (C.)	Charlottesville
Dr. Collinson P. E. Burgwyn	Petersburg
Dr. Quinter M. Burnett	Arlington
Dr. Charles E. Butterworth, Jr.	Charlottesville
Dr. Noland M. Canter	Salem
Dr. Elizabeth Rowe Caro	Richmond
Dr. Kathleen Strickland Cawthon	Charlottesville
Dr. Phil Lattimer Chapman	Richmond
Dr. Malcolm Smith Chase	Salt Lake City, Utah
Dr. Paul Lowell Chodosh	Charlottesville
Dr. Ernest Tinsley Cobb	Ronceverte, W. Va.
Dr. Vernon L. Cofer, Jr.	Norfolk
Dr. Lee Roy Minor Conn	Blacksville, W. Va.
Dr. William B. Crawford, Jr.	Charlottesville
Dr. William Bryant Crenshaw	Rochester, Minn.
Dr. Douglas H. Crockett	Bluefield
Dr. Joseph McDonald Damron	Richmond
Dr. Edward Garland Davis, Jr.	Richmond
Dr. Charles William Dennison	Richmond
Dr. Conley Lee Edwards, Jr.	Crewe
Dr. Roy Alvin Edwards, Jr.	Richmond
Dr. George F. Elsasser, Jr.	Portsmouth
Dr. Warren Cavill Evans	Norfolk
Dr. Leonard Oswell Fears, Jr.	Lynchburg
Dr. Frank S. Flanary	Augusta, Ga. (Dryden, Va.)
Dr. J. Raymond Freeman	Richmond
Dr. Edward Watts Gamble, III	Boston, Mass.
Dr. Rufus Solomon Gardner, Jr.	Richmond
Dr. Lucy Goode Garnett	Charlottesville
Dr. Genevieve Marston Garrett	Morgantown, W. Va.
Dr. Edwin Wayne Gilley	Gate City
Dr. James Stephen Golden, Jr.	Charlottesville
Dr. John Newton Gordon	San Antonio, Texas
Dr. Erza Goyings, Jr.	Richmond

Name Address

Dr. Calvin Ellis Greene, Norfolk
Dr. Charles George Guttas, Va. Beach
Dr. Edward Blair Guy, Detroit, Mich.
Dr. Andrew Wentworth Hargroves, Jr., Winston-Salem, N. C.
Dr. John Quackenbush Hatten, Hampton
Dr. Elliott Clarke Haley, Charlottesville
Dr. Glenn Claire Hall, Jr., Pulaski
Dr. William Benjamin Hopkins, Jr., Richmond
Dr. Leonard Preston Hudnall, Pratt, W. Va.
Dr. William Robert Irby, Blackstone
Dr. Robert Wheary Irvin, Jr., Richmond
Dr. John Martin Johnson, Jr., Appalachia
Dr. Samuel Wharton Johnson, Jr., Norfolk
Dr. Charles Daniel Jordan, Greenville, N. C.
Dr. Samuel Benjamin Judy, Richmond
Dr. John Jackson Kelly, III, Richmond
Dr. Robert Gillis Kindred, Charlottesville
Dr. Richard Horace Kirkland, Richmond
Dr. William Irvin Knight, Jr., Richmond
Dr. Carl Harrian Laestar, Baltimore, Md.
Dr. Nancy Irene Pendleton Law, Richmond
Dr. William McConnell Law, Roanoke
Dr. Thomas Stacy Lloyd, Jr., Richmond
Dr. Harry Glenn Lockard, Jr., Richmond
Dr. Alvin Penrose Long, Jr., Richmond
Dr. William Boyd Looney, Richmond
Dr. Natalie Inge Lum, Richmond
Dr. Frederic Maccabe, Jr., Baltimore, Md.
Dr. Lyle Beuhring McGinnis, Huntington, W. Va.
Dr. Charles Elford McKay, Jr., Charlottesville
Dr. Ewing William McPherson, Richmond
Dr. Charles Taylor Marrow, III, Hopewell
Dr. Arthur Friffin Meakin, Norfolk
Dr. John A. Moore, Hampden-Sidney
Dr. Merwin Blanchard Moore, Jr., Charlottesville
Dr. Michael Judson Moore, Killarney, W. Va.
Dr. Charles William Moorefield, Nathalie
Dr. William C. Morgan, Jr., Indianapolis, Ind.
Dr. Robert William Moseley, Radford
Dr. Thomas Henry Moseley, Ebony
Dr. David Walker Mullins, Richmond
Dr. Jack Francis Murray, Milwaukee, Wis.
Dr. Beulah Mae Musgrove, Charlottesville
Dr. Kenwyn Gordon Nelson, Scarsdale, N. Y.
Dr. William Albert Niermann, Baltimore, Md.
Dr. Wallace Clay Nunley, Charlottesville
Dr. Samuel Poindexter Oast, Portsmouth
Dr. John Atkinson Owen, Jr., South Boston
Dr. Charles Council Parker, Richmond
Dr. William Henry Pate, Richmond
Dr. Richard Quentin Penick, Richmond
Dr. Powell Leon Perkins, Charlottesville
Dr. John Leak Pitts, Jr., Fredericksburg
Dr. James Nicholas Psimas, Charlottesville
Dr. William Ferguson Reid, Washington, D. C.
Dr. Eric Reiss, New York, N. Y.

Name Address

Dr. Robert Earl Richard, Morgantown, W. Va.
Dr. Walther Riese, Richmond
Dr. Lucien Wood Roberts, Jr., Richmond
Dr. Sarah Elizabeth Roberts, Charlottesville
Dr. James Beall Rodgers, Martinsburg, W. Va.
Dr. David Ross Rogers, Portsmouth
Dr. Henry Page Royster, Richmond
Dr. Frank McCutchan Ryburn, Jr., S. Charleston, W. Va.
Dr. William Hampden Sage, III, Norfolk
Dr. Thomas Archer Saunders, Richmond
Dr. Walter Haines Smartt, Lookout Mountain, Tenn.
Dr. David Hamilton Smith, Richmond
Dr. Marshall Jerome Snapp, Charlottesville
Dr. Charles Mac Stanfill, Alexandria
Dr. Clyde Vaughan Stanley, Jr., Charlottesville
Dr. John Lambdin Whaley, Richmond
Dr. William Harman Whitemore, Jr., Richmond
Dr. John Cecil Wilkinson, Hillsville
Dr. Ann Hardy Williams, Richmond
Dr. Charles Lee Williams, Richmond
Dr. Robert K. Williams, Baltimore, Md.

APPLICANTS GRANTED LICENSE THROUGH ENDORSEMENT

Dr. Lloyd Campbell Agnew, Washington, D. C.
Dr. James Francis Ambury, Arlington
Dr. Richard Dabney Anderson, Albemarle County
Dr. Harry Clark Bates, Jr., Falls Church
Dr. Samuel M. Becker, Washington, D. C.
Dr. Orin Watts Booth, Newport News
Dr. Phillips Respess Bryan, Lynchburg
Dr. Robert C. Burnham, Washington, D. C.
Dr. Joseph D. Casolaro, Falls Church
Dr. Frank Samuel Caprio, Falls Church
Dr. Ervin Newton Chapman, Washington, D. C.
Dr. Louis A. Cibelli, Roanoke
Dr. Hugh Gambel Clark, Fairlington
Dr. William Duvall Claudy, Arlington
Dr. Fred C. Collier, Stuart's Draft
Dr. David B. Corcoran, Suffolk
Dr. William Allaire Dashiell, Beverly Hills, Calif.
Dr. James Lyle Dellinger, Warrenton
Dr. George Donabedian, Cape Charles
Dr. Cromwell Cornelius Douglas (Col.), Norfolk
Dr. Clarence E. Dungan, Wellsville, N. Y.
Dr. Albert M. Edmonds, Richmond
Dr. John Robert Egan, Arlington
Dr. Paul Taber Forth, Roanoke
Dr. Frank E. Gibson, Jr., Arlington
Dr. Fleetus Lee Gobble, Jr., Alexandria
Dr. Stanley Z. Goldberg, Norfolk
Dr. Lawrence Elliott Gordon, Jr., Marion
Dr. Thomas Eugene Haggerty, Arlington
Dr. Herbert Whitley Harvey (Col.), Danville
Dr. Dean Maeser Hayes, Washington, D. C.
Dr. Herbert Dale Hebel, University
Dr. Roger Frederick Hisey, Spray, N. C.
Dr. Camp Stanley Huntington, Washington, D. C.
Dr. Anson R. Hyde, Arlington

Name Address

Dr. Philip E. Jones, Alexandria
Dr. William Harding Kneedler, Charoltte, N. C.
Dr. Wieman Kretz, Newport News
Dr. Walter Jerome Lee, Richmond
Dr. Louisa Chandler Littleton, Arlington
Dr. Thomas Alfred McGavin, Arlington
Dr. Jay McLean, Arlington
Dr. George V. Martin, Washington, D. C.
Dr. James H. Masterson, Arlington
Dr. George S. Maxwell, Roanoke
Dr. Kay Norman Ostergard, Arlington
Dr. Richard E. Palmer, Arlington
Dr. Manson Bowers Pettit, Washington, D. C.
Dr. John Byron Poore, Roanoke
Dr. David C. Prickett, Buchanan County
Dr. Isadore Rod, Washington, D. C.
Dr. Julius Schreiber, Washington, D. C.
Dr. Charles F. Stiegler, Washington, D. C.
Dr. William Thornton Spence, Washington, D. C.
Dr. Earle E. Sullivan, Covington
Dr. William Raymond Thomas, Washington, D. C.
Dr. Joe Milton VanHoy, Arlington
Dr. William David Varner, Franklin
Dr. Guy Zimmerman, Jr., Stonega
Dr. William Harold Zimmerman, Keokee

Wise County Medical Society.

Members of this society were entertained with a steak dinner on the evening of August the 18th, at Norton, the hosts being Drs. J. H. Hagy, S. H. Rivers, J. D. Culbertson and T. J. Tudor. Thirty-two doctors heard Dr. Harlis O. Bolling of Kingsport, Tenn., speak on "Hopeful Aspects of Cardiovascular Disease". This was followed by an interesting question and answer period which lasted for an hour.

Resolution was passed to ask the delegate to the state convention in October to make vigorous protest against the state tax to be assessed against doctors, commencing in 1949.

Revision of the by-laws, applicable to admission of new members came up the second time and the resolution prepared by the board of censors to admit hereafter only graduates of Class A schools was read. Final action is to be taken at the next meeting in Norton on November 10th. Topic for discussion at that time will be "Conduct of Labor and Treatment of Eclampsia".

Dr. C. H. Henderson and Dr. Thomas J. Tudor, both of Norton, are president and secretary, respectively of this Society.

Augusta County Medical Association.

At the regular meeting of the Association on August the 17th, the following were elected as officers for the ensuing year: President, Dr. Charles L. Savage, Waynesboro; vice-presidents, Drs. Irvin M. Nuckols and Richard P. Bell, Jr., Staunton, and Dr. Samuel G. Saunders of Waynesboro; secretary, Dr. Charles F. Gaylord, Staunton; treasurer, Dr. Boyd H. Payne also of Staunton; censor, Dr. H. G. Middlekauff of Weyers Cave.

The Tazewell County Medical Society

Met at the Tazewell County Country Club on August 19. This was a joint meeting with the Mercer County Medical Society of West Virginia and about fifty physicians were present. A dinner was served and Dr. M. P. Rucker of Richmond addressed the Society on Uterine Contraction Rings. Dr. H. A. Porter of Boissevain presided at the meeting. Dr. W. R. Strader of Richlands is secretary.

The Lynchburg Academy of Medicine

Held its regular monthly meeting at Lynchburg General Hospital September 13th at 8 P. M. Dr. Warwick Thomas of the Thomas Allergy Clinic, Richmond, spoke, using as his subject "Skin Manifestations of Allergy".

Dr. Howe Reese Coleman was elected to full membership in the Academy.

Dr. H. L. Riley, Jr., is president and John T. T. Hundley, Secretary.

Instead of the regular meeting in June, a Ladies' Night was held at Boonsboro Country Club, with the wives of the members present as guests. The dinner and social activities were thoroughly enjoyed by those present.

NEWS

Richmond Meeting, Medical Society of Virginia.

Programs for the meeting should be in hands of all members by this time and it will be seen that an interesting array of exhibits will be on hand and that there are papers on a large variety of subjects.

Members of the House of Delegates are reminded that the first session of this body is to be at 8:00 p.m. on Sunday evening, October the 17, and are asked to make their plans accordingly.

An outstanding feature will be honoring members of the Society who have been in the practice of medicine for fifty years or more. This exercise will be on Monday evening. A cocktail party, banquet, entertainment and dancing will be on Tuesday evening. On Tuesday, luncheon meetings will be held by so many organizations that every member, if interested, may arrange to be with some special group.

The Local Committee, under the chairmanship of Dr. Charles L. Outland, has been untiring in its efforts for the success of the meeting. Let's make this a banner meeting for our President, Dr. Guy R. Fisher, and the local doctors by having a large attendance!

General Practitioners To Have Luncheon At State Meeting.

Plans are now complete for a rousing good meeting of the newest organization in our State Medical Society, the State Society of General Practitioners. On Tuesday, October 19, during the State Society meeting, the general practitioners will hold a business meeting and luncheon combined in the John Marshall Hotel.

It is of interest to note that, since its organization at the last State Society meeting in Roanoke, membership in the General Practitioners Society has grown rapidly. In addition to individual general practitioners joining the State Society there have been a number of large groups to organize in local communities. The latest of these to organize was the Richmond group which met on September 14 at the Richmond Academy of Medicine. It is expected that close to all of the 172 general practitioners in Richmond will ally themselves with this local organization.

This meeting will be called to order by Dr. W. L. Powell of Roanoke, immediate past president of the Medical Society of Virginia and the first president of the State Society of General Practitioners. Dr. James Hamner, president-elect from Mannboro, is expected to take over the presidency following this meeting.

Membership is not a prerequisite to attendance. All general practitioners are invited. It is urged that you communicate with Dr. Edward Haddock, chairman of the luncheon committee, 1133 W. Franklin Street, Richmond, and ask that a plate be reserved for you.

A. M. A. Interim Session.

Registrations and hotel reservations are now being accepted for the second annual Interim Meeting of the American Medical Association at St. Louis, November 30 to noon, December 3, 1948.

On the eve of the Interim Meeting, Saturday, November 27, the first national Medical Public Relations Conference will be held under sponsorship of the A. M. A. at the Statler Hotel.

Planned to be especially valuable to the general practitioner, the Interim Session will offer lecture meetings, conducted by medical leaders on conditions most often seen in daily practice. Subjects to be discussed include diabetes, heart disease, cancer, poliomyelitis, obstetrics, pediatrics, dermatology, genitourinary conditions, hypertension, anesthesia, tuberculosis, jaundice, laboratory diagnosis, x-ray diagnosis, and physical medicine as applied to the treatment of arthritis.

Diagnosis and treatment will be stressed in a wide variety of clinical conferences, which will be correlated with the lecture meetings. Leading practitioners from all sections of the nation will conduct these conferences.

Evening programs will feature distinguished speakers, the award of the general practitioner medal, and fun. Entertainment will be provided, free of charge to physicians and their guests of course, by stars of the amusement world.

A scientific exhibit with nearly 100 displays will show clinical and pathological material on subjects dealt with in the clinical conferences. Approximately 115 leading firms will display technical exhibits, which will include new products, equipment, and medical publications.

A registration form which enables the physician to save time by securing a registration card in advance is appearing in *The Journal of the American Medical Association* every other week until the Interim Meeting. All reservations must be cleared through the Chairman, Subcommittee on Hotels, American Medical Association, Hotel Reservation Bureau, 1420 Syndicate Trust Building, St. Louis 1, Mo., and must be received before November 9, 1948.

Southern Medical Association.

To those interested in a southern vacation, all necessary should be to know that dates of the Southern Medical Association meeting are October 25-28

at Dinner Key, a bit of land extending from Miami, Florida, into Biscayne Bay—a navy air base during World War II. The scientific, technical and hobby exhibits will be at the same location.

Requests for hotel accommodations should be made to Hotel Committee, Southern Medical Association Meeting, care City of Miami Convention Bureau, 320 N. E. Fifth Street, Miami 32, Florida.

Dr. DeWitt C. Daughtry,

Class of '39, Medical College of Virginia, has resigned as chief of Thoracic Surgery at McGuire VA Hospital, Richmond, and has entered the private practice of thoracic surgery in Miami, Florida, with offices at 2300 Biscayne Boulevard.

Dr. Gordon D. Carmichael,

Who has been on the staff of the Alleghany Memorial Hospital since shortly after his release from Service in 1946, has located in Roanoke, with offices at 820 South Jefferson Street, for the practice of general surgery.

Dr. Robert Trice,

Class of '44, Medical College of Virginia, spent August in Boston, attending Dr. Sam Levine's course in cardiology. He is a son of Dr. and Mrs. E. T. Trice of Richmond.

Dr. Charles H. Bondurant,

Recently of Riverton and Front Royal, is now at Newton Baker Veterans' Administration Centre, Martinsburg, West Virginia.

A. M. A. Again To Honor Outstanding General Practitioner.

The American Medical Association has adopted the practice of honoring one outstanding general practitioner each year, and this year's award will be made at the St. Louis interim session, November 30 to December 3.

That a name may be submitted from Virginia, each component society is urged to name the candidate of its choice within its jurisdiction and submit the name to the Medical Society of Virginia for approval, either before or at time of its annual meeting, as the name has to reach A. M. A. headquarters prior to November 15.

American Academy of General Practitioners Honors Virginia Member.

Dr. John O. Boyd, Jr., of Roanoke was recently elected to the board of directors of the Academy at the first annual meeting of the Congress of Delegates in Chicago. Dr. Boyd was a logical choice inasmuch as he has been highly informed and deeply interested in the general practitioners' organization since its inception at the Atlantic City American Medical Association meeting in 1947. He is engaged in general practice in Roanoke and has been actively engaged in the work of the state organization, which he is now serving as secretary.

Delegates attending this meeting from Virginia were Dr. Clarence P. Jones, Jr., of Newport News and Dr. John O. Boyd, Jr., of Roanoke. Dr. James Hamner, president-elect of the Virginia Academy of General Practitioners, also attended the meetings and was active in the deliberations of the American Academy of General Practitioners.

The South Atlantic Association of Obstetricians and Gynecologists

Announces the establishment of "The Foundation Prize". Authors of papers on Obstetrical or Gynecological subjects, desiring to compete for the prize, may obtain information from Dr. E. D. Colvin, Secretary-Treasurer, 1259 Clifton Road, N. E., Atlanta, Ga.

Virginia Beach Hospital,

Which has been admitting patients for several weeks, will have its official opening about the first of October. This is a three-story structure of concrete and steel and contains the most modern equipment obtainable. It is privately owned by Drs. James W. Todd, Floyd H. Dormire and Waller L. Taylor. While a closed staff, it has the following consultants from Norfolk, covering various specialties: Dr. C. J. Devine, urology; Dr. A. D. Morgan, ear, nose and throat; Dr. W. Wickham Taylor, ophthalmology; Dr. J. L. Thomson, neurological surgery; Drs. G. A. Duncan and G. G. Hollins, orthopedics; Dr. John O. Rydeen, pediatrics; Dr. C. C. Smith, surgery; Dr. Lemuel Mayo, thoracic surgery; Dr. Walter B. Martin and associates, medicine; Dr. James W. Anderson, dermatology; Dr. A. A. Burke, bronchoscopy; Dr. Thomas N. Spessard, psychiatry; and Dr. Millard B. Savage, obstetrics and gynecology.

Duke's Symposium on Therapy.

Each year, Duke University holds an annual symposium which presents speakers of national prominence. This year's program is entitled "Sym-

posium on Therapy", and the speakers selected are outstanding specialists. Dates are November 4, 5 and 6.

On the social side, dinner will be served at Hope Valley Country Club between the afternoon and evening sessions on the 4th, and there will be a barbecue supper on the second evening. The football game between Duke and Wake Forest will come just at the close of the Symposium on Saturday.

Further information may be obtained from Dr. Edward S. Orgain, Chairman, Symposium Committee, Duke University School of Medicine, Durham, N. C.

Medical College of Virginia News.

Dr. W. Lawrence Weaver, Associate Professor in Industrial Medicine at the Medical College of Virginia (Richmond) and Medical Supervisor in the Rayon Division of DuPont Company, was recently elected a fellow in the American Academy of Occupational Medicine. Dr. Weaver is a graduate of Randolph-Macon College and the Medical College of Virginia (Richmond). Dr. Weaver has been active in research in the field of Industrial and related medicine, and written several articles for leading magazines. He joined the faculty of the Medical College of Virginia as an instructor in Industrial Medicine in 1940.

Postgraduate Course In Ophthalmology and Otolaryngology.

The annual Post-graduate Course in Ophthalmology and Otolaryngology will be held at the University of Virginia Medical School, Charlottesville, November 30th and December 1st for Ear, Nose, and Throat, and December 2nd and 3rd for the Eye.

The following speakers will participate in the program.

OTOLARYNGOLOGY

Dr. LeRoy A. Schall, Boston, Mass., will give talks on (1) Carcinoma of the Nose and Sinuses, and (2) Cancer of the Larynx.

Dr. Gilbert E. Fisher, Birmingham, Ala.: (1) Management of Esophageal Obstruction, and (2) The Recognition and Radium Treatment of Nasopharyngeal Lymphoid Tissue in the Prevention of Conductive Deafness.

Dr. Russell A. Sage, Indianapolis, Ind.: Oral Lesions.

Dr. J. Brown Farrior, Tampa, Fla.: Surgery of the Temporal Bone.

Dr. Stacy R. Guild, Baltimore, Md.: Hearing Tests.

Dr. Samuel Fomon, New York, N. Y.: Rhinoplasty.

Dr. Chalmers L. Gemmill, Charlottesville, Va.: Newer Drugs of Interest to the Otolaryngologist.

OPHTHALMOLOGY

Dr. Arthur J. Bedell, Albany, N. Y.: Fundus Changes in Constitutional Diseases. A Kodachrome demonstration presenting various changes which are either common or unusual in diabetes, nephritis, tuberculosis, syphilis, hypertension, the blood states, circulatory disturbances.

Dr. Alan C. Woods, Baltimore, Md.: The Ocular Changes in Primary Toxic Goitre and a Classification of the Optic Neuropathics.

Dr. Shaler A. Richardson, Jacksonville, Fla.: (1) Office Management, and (2) Malignancies of the Iris.

Dr. R. Townley Paton, New York, N. Y.: Keratoplasty—Indications and Selection of Cases and Results, Post-Operative Complications and How to Deal with Them; and (2) Retinal Detachment, Diagnosis and Operative Treatment.

Dr. William C. Owens, Baltimore, Md.: Motor Anomalies, Analysis and Treatment of the Cases; and (2) Cataract Surgery.

The fee for the course is $25.00 for the four days and $15.00 for either part thereof.

Accommodations may be secured at the Monticello Hotel or the Albemarle Hotel, in Charlottesville. For further details, write Dr. Fletcher D. Woodward, P. O. Box 98, Charlottesville.

Dr. Horace A. Albertson,

Class of '43, Medical College of Virginia, who has had a residency in surgery at Jefferson Hospital, Roanoke, since his release from Service, completed this on June 30, and is now at the Veterans' Administration Hospital at Newington, Conn., as resident in surgery.

Dr. Warren F. Draper,

Former State Health Commissioner of Virginia on loan from the U. S. Public Health Service, was appointed as executive officer of the medical and hospitalization service of the United Mine Workers, effective September 1.

Wanted

Physician for industrial practice. For particulars, write Medical Director, Clinchfield Coal Corporation, Dante, Virginia. (*Adv.*)

Wanted:

Assistant to doctor in small industrial town in southwest Virginia. Contract and private practice. Will pay salary and commission, with prospect of taking over entire practice in future. Address "Practice", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

OBITUARIES

Dr. James King Hall,

Nationally known Richmond psychiatrist, died September 10th, having been in bad health for some time. He was a native of Iredell County, North Carolina, and seventy-three years of age. Dr. Hall graduated from Jefferson Medical College in 1904. After serving as a member of the staff of the State Hospital at Morganton, North Carolina, in 1911 he participated in the organization of the Westbrook Sanatorium at Richmond of which he was president and head of the department for men. Dr. Hall had served as president of the National Association of Private Psychiatric Hospitals, the Southern Psychiatric Association, the American Psychiatric Association, the Tri-State Medical Association of the Carolinas and Virginia, and the Richmond Academy of Medicine. He was also a member of several other medical organizations and was at one time Chairman of the Governor's Advisory Board on Mental Hygiene. He was an associate editor of *Southern Medicine and Surgery* and of "Diseases of the Nervous System" and from time to time contributed to medical literature. Dr. Hall had been an active member of the Medical Society of Virginia for thirty-seven years and a former vice-president. His wife and three sons survive him.

Dr. Israel Kay Redd,

Prominent physician of Ellerson, died August 21st. He was a native of Hanover County and fifty-five years of age. Dr. Redd graduated from the Medical College of Virginia in 1914 and had practiced in Ellerson for thirty-two years. He was a student of the Civil War and was an authority on the battlefields near Richmond, it being said he knew the location of every entrenchment and the part it played in the conflict. Dr. Redd was a member of the Medical Society of Virginia for a number of years. His wife and three children survive him.

Dr. Joseph Bear,

Well-known obstetrician of Richmond, died unexpectedly of a heart attack on August 28th. He was in his office and had just completed treatment of a patient. He was fifty-nine years of age and a graduate of the Medical College of Virginia in 1912. Dr. Bear had practiced in Richmond since his graduation and was at the time of his death president of the Richmond Obstetrical and Gynecological Society. He was on the teaching staff of the Medical College of Virginia. Dr. Bear had been a member of the Medical Society of Virginia for thirty-five years. His wife and a daughter survive him.

Dr. Oliver Curry Brunk,

Well-known physician of Richmond, died August 19th after a long illness. He was born in Harrisonburg in 1878 and graduated in medicine from the University of Virginia in 1903. Dr. Brunk had practiced in Richmond since 1912 and since 1935 had been surgeon of the city's Police Department. He was a Mason and a Shriner and had been a member of the Medical Society of Virginia for forty-five years. His wife and a daughter survive him.

Resolutions On Dr. Julian M. Robinson.

By appointment of Dr. L. R. Broome, President of the General Staff of Memorial Hospital, Danville, Virginia, this Committee, acting for the General Staff presents the following resolutions:

1. It is with profound sorrow that the General Staff has learned of the death of Dr. Julian M. Robinson, which occurred on June 28, 1948. We wish to extend to his family our deepest sympathy. He will not only be a great loss to his family but also to the medical profession of this and surrounding communities, and to the numerous and genuine friends he has made through an active, devoted and fruitful career as physician, counselor, friend and civic spirited citizen.

2. IT IS RESOLVED that a copy of this be entered upon the minutes of the General Staff of the Memorial Hospital, and that copies be sent to the VIRGINIA MEDICAL MONTHLY, the American College of Surgeons, the Southern Surgical Association, and the family.

L. O. CRUMPLER
JOHN T. DAVIS
SAMUEL NEWMAN
Committee

-In Retarded Intestinal Motility--

associated with postoperative inactivity, restricted diets, pregnancy, as well as in simple constipation—Metamucil gently initiates reflex peristalsis and movement of the intestinal contents.

The "smoothage" therapy of Metamucil enables the colon to clear itself without irritating the mucosa.

METAMUCIL

Metamucil® is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

G. D. SEARLE & CO., CHICAGO 80, ILLINOIS

A Modern Hospital for the Treatment of Alcoholism Exclusively

- A private hospital offering scientific, institutional, medical, psychological, reflex, reduction and other methods for the rehabilitation of consent patients suffering from alcoholism.

- All equipment modern with facilities to take care of 50 patients both male and female.

- Under the direction of a competent licensed M. D. with five consultant physicians subject to call. Registered Nurses in charge 24 hours daily.

Approved and licensed by the Virginia State Hospital Board. Atop beautiful Mt. Regis, five miles West of Roanoke, on Highway 11, in the quiet serene mountains of Virginia, conducive to rest, comfort and recuperation. Doctors inspection invited. For information phone or write.

WHITE CROSS HOSPITAL

WHITE CROSS HOSPITAL

Five Miles West of Roanoke on Route No. 11.
Salem, Virginia — Phone Salem 287

Copyright 1948. H. N. Alford, Atlanta, Ga.

Dr. Botts' Eye-Ear-Nose- and Throat Hospital

Norton, Virginia

Fully equipped for the Medical and Surgical care of all Eye-Ear-Nose-Throat, Facio-Maxillary, Bronchoscopical and Esophagoscopical Conditions.

GEORGE W. BOTTS, M.D., Surgeon in charge.

For Further Information Address:

Superintendent, Box 498, Norton, Va.

TUCKER HOSPITAL

212 West Franklin Street
(corner of Madison)
RICHMOND, VIRGINIA

Private hospital for neuropsychiatric and endocrine cases under the charge of Drs. Beverley R. Tucker, Howard R. Masters and James Asa Shield.

FOR PATIENTS WITH

ALCOHOLIC PROBLEMS

. . . The Farm

A non-institutional arrangement in Howard County, Maryland, for the individual psychological rehabilitation of a limited number of selected voluntary patients with ALCOHOL problems — both male and female — under the psychiatric direction of Robert V. Seliger, M.D.

City office:

2030 Park Ave. Baltimore 17, Md.

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE WEST END RESIDENTIAL SECTION

TWENTY-FIFTH ANNIVERSARY
1923-1948
of

McGUIRE CLINIC

and
SIXTY-SIXTH ANNIVERSARY
1882-1948
of

ST. LUKE'S HOSPITAL

RICHMOND, VIRGINIA

General Medicine
James H. Smith, M.D.
Hunter H. McGuire, M.D.
Margaret Nolting, M.D.
John P. Lynch, M.D.
W. T. Thompson, Jr., M.D.
Wm. H. Harris, Jr., M.D.

Orthopedic Surgery
Wm. Tate Graham, M.D.
James T. Tucker, M.D.
Beverley B. Clary, M.D.

Urology
Austin I. Dodson, M.D.
Chas. M. Nelson, M.D.

General Surgery
Stuart McGuire, M.D.
W. Lowndes Peple, M.D.
Webster P. Barnes, M.D.
John H. Reed, Jr., M.D.
John Robert Massie, Jr., M.D.

Otolaryngology
Thos. E. Hughes, M.D.

Dental Surgery
John Bell Williams, D.D.S.
Guy R. Harrison, D.D.S.

Obstetrics
H. C. Spalding, M.D.
W. Hughes Evans, M.D.
James M. Whitfield, M.D.
Wm. T. Moore, M.D.

Ophthalmology
Francis H. Lee, M.D.

Bronchoscopy
George Austin Welchons, M.D.

Roentgenology
J. Lloyd Tabb, M.D.

Pathology
J. H. Scherer, M.D.

Dairy Foods

SHOULD BE

Daily Foods

A delightful way to get the daily quota of nourishing dairy foods is Sealtest Ice Cream. In addition to Vitamin A and calcium, it is rich in other minerals, vitamins and protein, and contains 10 important Amino Acids.

Southern Dairies

Sealtest
ICE CREAM
THE MEASURE OF QUALITY

at
Miami, Florida

AN INSPIRING MEDICAL MEETING—the Annual Meeting of the Southern Medical Association in Miami, Florida, October 25-28. In the general clinical sessions by Miami physicians and surgeons, the twenty-one sections and the scientific and technical exhibits, every phase of medicine and surgery will be covered—**the last word in modern, practical, scientific medicine and surgery.** Addresses and papers by distinguished clinicians not only from the South, but from many parts of the United States.

REGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there will be at Miami a scientific program and recreational facilities to challenge his every interest and make it worth-while for him to attend.

ALL MEMBERS of state and county medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of $5.00 include the Southern Medical Journal, a journal valuable to physicians of the South, one that each should have on his reading table.

SOUTHERN MEDICAL ASSOCIATION
Empire Building
BIRMINGHAM 3, ALABAMA

SHOULD VITAMIN D BE GIVEN ONLY TO INFANTS?

VITAMIN D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

MEAD'S Oleum Percomorphum With Other Fish-Liver Oils and Viosterol is a potent source of vitamins A and D, which is well taken by older children because it can be given in small dosage or capsule form. This ease of administration favors continued year-round use, including periods of illness.

MEAD'S Oleum Percomorphum furnishes 60,000 vitamin A units and 8,500 vitamin D units per gram. Supplied in 10- and 50-cc. bottles and bottles of 50 and 250 capsules. Ethically marketed.

MEAD JOHNSON & COMPANY, Evansville 21, Ind., U.S.A.

NOV -9 1948
LIBRARY.

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Roentgen Therapy of Bursitis. Fred M. Hodges, M.D., and Randal A. Boyer, M.D., Richmond, Va. ---------- 547

The Importance of Hematuria. William Wallace Scott, M.D., Baltimore, Md. ---------- 550

The Psychosomatic Effects of Chronic Invalidism. David C. Wilson, M.D., Charlottesville, Va. ---------- 553

Thyroid Surgery. John W. Devine, M.D., F.A.C.S., John W. Devine, Jr., M.D., F.A.C.S., Lynchburg, Va. ---------- 559

The Diagnosis and Treatment of Neurosyphilis with Negative Blood and Spinal Fluid Wassermanns. James Asa Shield, M.D., Richmond, Va. ---------- 564

Vaginal Cervical Smear in the Diagnosis of Uterine Cancer. William Bickers, M.D., Philip Sayhoun, M.D. and Margaret Massie, R.N., Richmond, Va. ---------- 568

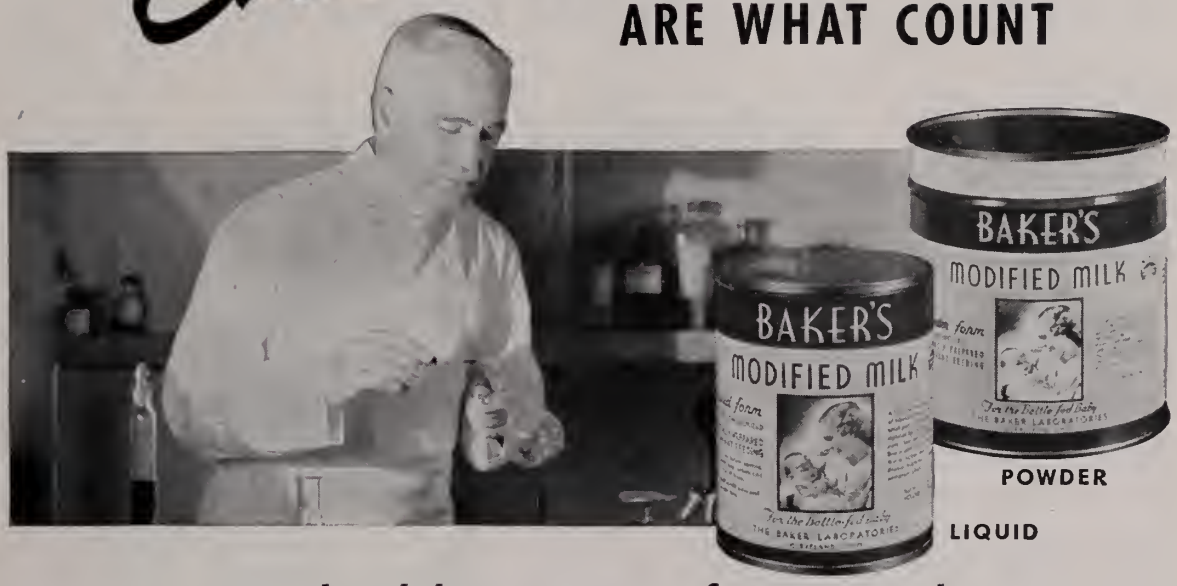
Tetanus Neonatorum. John S. Weitzel, M.D., Richmond, Va. 575

Continued on page 6.

November, 1948

Reliance

THE *End Results* ARE WHAT COUNT



Backed by Years of Research

BAKER'S MODIFIED MILK

Meets Doctors' Demands . . . Infants' Needs

● A complete milk diet that closely conforms to human milk . . . a nutritious food for infants that may be used either complemental to or entirely in place of human milk . . . well tolerated by both premature and full-term infants . . . a food that may be used from birth until the end of the bottle feeding period—without changing the formula . . . a diet that means a well-nourished, happy baby.

These are "end results" of the years of research back of Baker's Modified Milk.

What the attainment of these results means to doctors is attested by the steadily increasing use of Baker's Modified Milk, which is advertised only to the medical profession. More and more doctors are prescribing Baker's Modified Milk because they find Baker's produces desired results with less trouble in most cases of infant feeding . . . that no change in dilution is needed as the baby grows older (just increase the quantity of feeding) . . . and the possibility of errors—always present when formulas are prepared in the home—is avoided.

To prepare Baker's for feeding merely dilute it to the prescribed strength with water, previously boiled. Baker's is available in both powder and liquid forms. Formulas made from liquid Baker's are especially easy to prepare; in some cases, such as the lack of refrigeration in hot weather, or when traveling, the powder form is preferable.

Just leave instructions at the hospital. The obstetrical supervisor will be glad to put your next bottle-fed infant on Baker's Modified Milk.

● Baker's Modified Milk is made from tuberculin-tested cows' milk in which most of the fat has been replaced by animal and vegetable oils with the addition of lactose, dextrose, gelatin, iron ammonium citrate, vitamins A, B1 and D. Not less than 800 units of vitamin D per quart.

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

BAKER'S MODIFIED MILK

THE BAKER LABORATORIES, INC., Cleveland, Ohio DIVISION OFFICES: SAN FRANCISCO, LOS ANGELES, DENVER, SEATTLE, and GREENSBORO, N. C.

A TOP FAVORITE IN PROTEIN SUPPLEMENTATION

Caminoids

TRADEMARK

BRAND OF AMINOPEPTODRATE

For Oral Administration

IN NEW PACKAGE SIZES for GREATER CONVENIENCE and ECONOMY

Caminoids* is now supplied in cans containing 1 pound and 5 pounds, as well as in bottles containing 6 ounces. **CAMINOIDS** is derived by enzymic digestion of liver, beef muscle, wheat, soya, yeast, casein, and lactalbumin. It has high biological value, high palatability, and outstanding patient-acceptance.

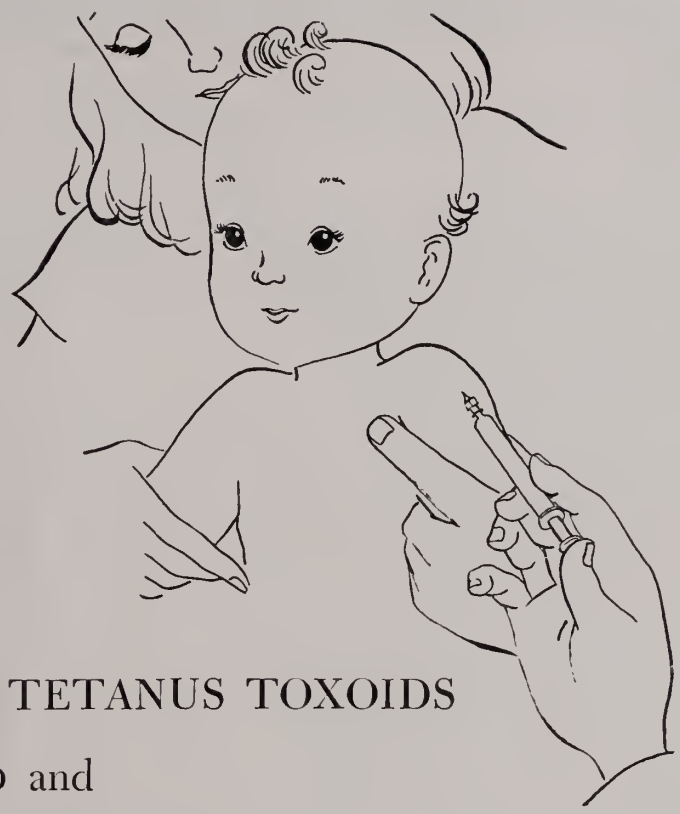
DOSAGE: One tablespoonful of **CAMINOIDS** three times daily supplies 12 Gm. of protein as hydrolysate. Available at leading pharmacies.

*New designation of Aminoids adopted as a condition of acceptance by the Council on Pharmacy and Chemistry of the American Medical Association. The word CAMINOIDS is an exclusive trademark of The Arlington Chemical Co.

Arlington

THE ARLINGTON CHEMICAL COMPANY

YONKERS 1 . . . . . NEW YORK



for simultaneous

active immunization

DIPHTHERIA and TETANUS TOXOIDS

ALUM PRECIPITATED and

PERTUSSIS VACCINE COMBINED

SQUIBB

Among the many advantages of simultaneous immunization against diphtheria, tetanus and pertussis are:

- *Injections fewer and of smaller total volume*
- *Local and systemic reactions reduced to a minimum*
- *Greater convenience for physician and patient*
- *Less discomfort for the patient*

DIPHTHERIA and TETANUS TOXOIDS Alum Precipitated and PERTUSSIS VACCINE COMBINED SQUIBB is given in three injections of 0.5 cc. each at monthly intervals. This amount provides a full immunizing dose of both Diphtheria and Tetanus Toxoids and 45,000 million killed H. pertussis organisms.

In 1.5 cc. vials, providing 1 complete immunization.

In 7.5 cc. vials, providing 5 complete immunizations.

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

CAMP ANATOMICAL SUPPORT FOR FAULTY BODY MECHANICS

PATIENT OF THIN TYPE OF BUILD—
SKELETON INDRAWN

In conditions of faulty body mechanics, the nonuse of the abdominal muscles allows the pelvis to rotate downward and forward, bringing the sacrum up and back. There results an increased forward lumbar curve with the articular facets of the lumbar spine crowded together in the back.

The dorsal spine curves backward with compression of the dorsal intervertebral discs and the cervical spine curves forward with the articular facets in this region closer together. Therefore, chronic strain of the muscles, ligaments and joints of the spine and pelvis occurs.

Camp Anatomical Supports have an adjustment by means of which their lower sections can be evenly and accurately brought about the major portion of the bony pelvis. When the pelvis is thus steadied, the patient can contract the abdominal muscles with ease and then with slight movement straighten the upper back.

Relieving back strain and fatigue due to faulty body mechanics is a feature of the Camp Support illustrated and other types for Prenatal, Postnatal, Postoperative, Pendulous Abdomen, Visceroptosis, Nephroptosis, Hernia and Orthopedic conditions.

S. H. CAMP AND COMPANY • JACKSON, MICHIGAN

World's Largest Manufacturers of Scientific Supports

Offices in New York • Chicago • Windsor, Ontario • London, England

Virginia Medical Monthly

Vol. 75, No. 11
WHOLE No. 1157

RICHMOND, VA., NOVEMBER, 1948

$2.00 A YEAR
25 CENTS A COPY

ROENTGEN THERAPY OF BURSITIS*

FRED M. HODGES, M D.,
and
RANDAL A. BOYER, M.D.,
Richmond, Virginia

Acute bursitis, also termed peritendinitis calcarea and periarthritis, is an extremely painful and disabling condition, which may affect almost any joint area in the body. The shoulder is, by far, the most frequently involved, but the hip, knee, elbow, wrist, and ankle may also be affected. The subacute and chronic forms vary in the severity of symptoms and amount of disability.

CLINICAL FEATURES

In the acute stage of bursitis of the shoulder, the appearance of the patient is almost as characteristic as that in Parkinson's syndrome. An observant receptionist frequently can make the correct diagnosis.

The pain is very severe, especially at night, when rest and sleep are often impossible. The patient carries the affected arm carefully, walking slowly to prevent the slightest motion or jarring. There is tenderness over the entire shoulder, particularly over the greater tuberosity of the humerus and just below the acromion process. Rotation and abduction are limited and extremely painful. The patient is unable to place his hand on his head, or to reach around to his hip.

In the subacute and chronic cases, the diagnosis is more difficult. Other conditions, such as cervical neuritis or arthritis, heart disease, primary or metastatic malignancy, and acute osteomyelitis must be considered and excluded.

ETIOLOGY

The cause of bursitis is not clear. Codman believed it to be due to destruction and degeneration of the tendons from ordinary use as well as repeated minor strains and injuries. It is generally agreed that most of the calcareous deposits occur in the substance of the supraspinatus tendon, and less frequently in the subscapular, teres minor and infraspinatus tendons.

PATHOLOGY

Howorth studied 23 cases at operation and observed the bursal walls to be thickened and opaque, edematous and vascular. Calcareous deposits were identified in the floor of the bursa as a white or yellowish area. Incision of such an area revealed one of several types of deposits; a milk-like fluid under pressure, a creamy or cheesy material, or a dry, granular substance. These deposits were found in the tendon, the fibers of which were softened and stringy.

Histologic study of sections of the tendons revealed degenerative changes associated with amorphous or granular calcium salt deposits.

ROENTGEN FINDINGS

After a careful history and examination, roentgenograms are made in the antero-posterior projection with the humerus in internal and in external rotation. Stereoscopic films may be helpful. Multiple views are essential, since a single view may fail to show the calcification.

On roentgen examination, calcifications are found frequently in the area of the tendon cuff of the shoulder. In the acute stage, the calcareous material usually gives a homogeneous and putty-like appearance. The chronic deposit is granular and is seen as a denser, more irregular, fragmented shadow. The typical roentgenogram shows an amorphous calcification in the angle between the head of the humerus, the greater tuberosity and the

*Read at the annual meeting of the Medical Society of Virginia in Roanoke, October 13-15, 1947.

acromion process. Calcification in the supraspinatus tendon is just above the tuberosities. That in the infraspinatus and teres minor is lateral to the tuberosities, while that in the subscapularis is medial to the head of the humerus.

Calcification may occur in the soft tissue of presumably normal persons who cannot recall any symptoms referable to that joint. Bosworth found opaque deposits in the region of the shoulder in 2.7 per cent of 6,061 normal persons. Codman and Akerson, on autopsy examination of aged persons, observed that 39 per cent showed evidence of having had rupture or definite degenerative disease of the supraspinatus tendon.

Analysis of 200 Cases

Of the 200 cases of subdeltoid bursitis, 44.5 per cent were men, and 55.5 per cent were women.

In the men, the right shoulder was affected in 62.9 per cent and the left shoulder in 37.1 per cent.

In the women, the right shoulder was affected in 49.5 per cent, and the left shoulder in 50.5 per cent.

The patients were in middle or late adult life. The youngest patient treated was 22 years old, the oldest 76.

Most of the people treated had sedentary occupations or were housewives. Fifteen physicians were included in this series. Few colored patients and only rarely a laborer or heavily muscled man were seen.

Treatment

Various types of treatment have been used. Open operation and excision of the deposit often give complete relief. Injection with novocaine, through-and-through irrigation with saline solution, needling, physical therapy and diathermy have been employed. Cold packs have been found to be eftive in giving temporary relief of pain. Heat usually accentuates the pain and should not be used.

Roentgen therapy has been established as a recognized form of treatment by numerous reports in the literature. The roentgen rays have a definite analgesic effect. The mechanism is not understood, but probably depends on a direct physico-chemical effect of the rays on the nerve conduction or pain endings.

Three hundred and sixty-one cases of bursitis have been treated by roentgen therapy in our office during the past six years. Of these, 200 involving the shoulder were treated by an uniform dosage technique and are presented. Seven involving the hip, four, the elbow and one, the wrist, were also seen. Nine shoulder cases were bilateral. Those with symptoms of less than two weeks' duration were considered acute. Those with pain and disability lasting from two weeks to two months were termed subacute, while those of longer duration were termed chronic.

In our present technique, the affected area is given 200 roentgens a day on three or four successive days, divided between anterior and posterior

Case 1.-a. Extensive calcareous deposit in the supraspinatus tendon. Acute symptoms were completely relieved one week after roentgen therapy.

b. Re-examination two months later shows disappearance of the calcification.

c. Calcification in the soft tissues adjacent to the greater trochanter of the femur. Symptoms were relieved by roentgen therapy, but the calcium deposit persisted.

portals. The factors used are: 120 kilovolts, 10 milliamperes, 25 centimeters target skin distance, with filtration of ¼ millimeter of copper and ½ millimeter of aluminum. If the response is slow, an additional portal over the posterior cervical spine is treated once with 250 roentgens.

In this series we observed relief of symptoms in 89 per cent of the acute and in 75 per cent of the subacute cases. We were unable to arrive at a definite evaluation of the chronic group. While a few of the chronic type were benefited, the response was disappointing, and we feel that the chronic cases are best treated by surgery. However, a short course of irradiation may be tried before operation is considered.

Of the acute cases that showed good response, 22 per cent were relieved of the acute pain within 24 hours, and another 28 per cent within 48 hours. That is, 50 per cent of these patients were relieved within 48 hours after the first treatment. The best response to roentgen therapy occurred in the acute cases showing calcification.

Young reported a series of 87 cases of bursitis of the shoulder treated by roentgen therapy at Temple University Hospital, and observed complete relief of symptoms in 87 per cent of acute cases, in 82 per cent of the subacute, and in 33 per cent of the chronic cases.

Infrequently the patient will have an exaggeration of the pain after the first treatment, and he should be warned of this possibility. This can be considered a favorable rather than an unfavorable sign, since the pain usually decreases sharply thereafter. Active motion of the part is advised to the limit of tolerance. With extremely severe pain, a sling support can be used for several days.

Patients receiving roentgen therapy are cautioned against the use of local heat, irritant plasters or salves, as well as against ultraviolet lamp or sunlight exposure.

In the acute cases, the calcification may disappear in from four days to two weeks. The dense, discrete areas of calcification of chronic bursitis usually showed no change, although the symptoms were sometimes relieved.

SUMMARY AND CONCLUSIONS

1. The response of acute bursitis to roentgen therapy is often dramatic. A series of 200 cases involving the shoulder showed relief of symptoms in 89 per cent of the acute phase, and in 75 per cent of the subacute cases. Chronic bursitis showed only fair response to roentgen therapy, and is usually best treated by surgical methods, although a short course of irradiation may be tried.

2. Roentgen therapy is recommended as a rapid, safe and reliable method of treatment in the acute and subacute phases of bursitis.

3. If patients with acute bursitis could have prompt and adequate roentgen irradiation, it is probable that few would reach the chronic stage.

BIBLIOGRAPHY

1. Bosworth, B. M.: Calcium deposits in the shoulder and subacromial bursitis—A survey of 12,122 shoulders: *J.A.M.A.* **116**:2477-82, 1941.
2. Codman, E. A., and Akerson, I. B.: *Ann. Surg.* **93**: 348-359, 1931.
3. De Lorimier, A. A.: Roentgen therapy in acute para-arithritis. *Am. J. Roentgenol.* **38**:178-195, 1937.
4. Howorth, M. Beckett: *Surg., Gynec. and Obst.* **80**: 337-345, April, 1945.
5. Klein, I.: Treatment of peritendinitis calcarea of the shoulder joint by roentgen irradiation. *Am. J. Roentgenol.* **56**:366-375, 1946.
6. Pendergrass, E. P., and Hodes, P. J.: Roentgen irradiation in the treatment of inflammation. *Am. J. Roentgenol.* **45**:74-106, 1941.
7. Young, Barton R.: Roentgen therapy of bursitis of the shoulder, *Am. J. Roentgenol.* **56**:626-630, 1946.

1000 West Franklin Street.

THE IMPORTANCE OF HEMATURIA*

WILLIAM WALLACE SCOTT, M.D.,
Professor of Urology, Johns Hopkins Hospital,
Baltimore, Maryland.

It is indeed a pleasure to be here and I wish to thank you all for the opportunity of discussing with you the subject of *"Blood in the Urine."*

Blood in the urine is the single, most important urinary symptom, and yet, as urologists, we are convinced that this is not common knowledge, nor are we convinced that the medical profession as a whole always considers the importance of blood in the urine.

Blood in the urine usually means some serious condition or disease (62% of 300 cases of surgical disease of the kidney alone), and should be investigated promptly. It is rarely constant, but usually intermittent in character. Months or years may intervene between attacks.

May I repeat, blood in the urine is a grave signal in the vast majority of cases. Search for its cause!

A simple and convenient classification of the causes of blood in the urine is division into *general* and *local* causes. Tonight I shall limit my remarks primarily to local causes and mention only briefly general causes.

General causes or systemic causes are mainly extrarenal and comprise less than 5 per cent of all cases of hematuria. This group of causes includes, among many, the blood dyscrasias (sickle cell anemia, polycythemia, hemophilia, leukemia, etc.), infections (infectious fevers such as malaria and typhoid fever and local infections adjacent to the urinary tract such as pelvic abscess, appendicitis and perinephritis), medicinal causes (e.g., sulfonamides) and miscellaneous (endometriosis, varices, etc.). By and large, at present little can be done for these people. Fortunately, the group is small.

Local causes are urogenital causes and comprise at least 95 per cent of the causes of hematuria. In the majority of these something can be done for the patient provided diagnosis is made early.

Considering the *kidney* first, the five most frequent and important causes of hematuria are (1) stone, (2) cancer, (3) tuberculosis, (4) infection, and (5) glomerulonephritis.

In the *ureter,* stone and tumor lead the list.

In the *bladder,* tumors and stones again lead. A close third is acute cystitis in the female with bleeding lasting only 24 hours. Bleeding from the bladder secondary to trauma appears obvious but should always be investigated.

Bleeding from the *prostate* occurs more commonly with benign prostatic enlargement than with cancer of the prostate.

Important causes of bleeding from the *urethra* are rare, the most important being cancer. More frequent, but less important causes, are posterior urethral infections, strictures and traumatic conditions.

So-called "essential hematuria" is not an entity and today is often recognized as being caused by nephritis, varices of renal papillae and more often by extrarenal causes. Occurring most often between the ages of 40 and 50 years, at best, these cases comprise but a small group.

Considering the urogenital tract as a whole, the five most important causes of blood in the urine are (1) stone, (2) tumor, (3) tuberculosis, (4) infection, and (5) glomerulonephritis. At present, excluding glomerulonephritis, something can be done for all these conditions, and, by and large, the earlier these conditions are recognized, the greater the chance of cure.

In the remaining time allotted me, I would like to run through a few cases illustrating these common causes of blood in the urine which demonstrate that blood in the urine is *always* an important sign, that cessation of bleeding is no indication of cure, and that a search for its cause is always indicated.

CASE 1, a 32-year old colored male, entered the Johns Hopkins Hospital in February of this year with the chief complaint of blood in the urine of one week's duration. Inquiry revealed that in January of 1944—four years before—while working in a munitions plant, he suffered a severe blow to the right loin. This was followed by gross hematuria lasting 2 days. Unfortunately, no pyelograms were made at that time. On admission here an intra-

*Presented at the Staff Meeting of the Jefferson Hospital, Roanoke, Virginia, May 24, 1948.

venous pyelogram revealed good left renal function, but the right kidney did not visualize. At cystoscopy blood could be seen coming from the right ureteral orifice and a retrograde pyelogram demonstrated a right hypernephroma. A nephrectomy was done. We are certain that the previous injury did not initiate the cancer and suspicious that the cancer was present at the time of the injury. A thorough examination at the time of injury would have probably told the story.

CASE 2, a 47-year old white male, was first seen at the Brady Urological Institute in May, 1925, with the chief complaint of blood in the urine. On cystoscopy blood was seen spurting from the right ureteral orifice. A right retrograde pyelogram was read as normal and a diagnosis made of hematuria, etiology undetermined. The bleeding stopped for over a year and in November, 1926, recurred. Cystoscopy again showed blood coming from the right ureteral orifice. A right (second) retrograde pyelogram was made and again read as normal—although comparison with previous films showed considerable change. Unfortunately, the patient was lost track of until almost 4 years later when he again returned complaining of blood in his urine (January, 1930). On admission a right retrograde pyelogram was typical of an hypernephroma and a right nephrectomy was done. This case illustrates the need of repeated examinations at frequent intervals in cases of unexplained hematuria.

CASE 3, a 46-year old white male, was first seen by me at the University of Chicago Clinics in October, of 1945, complaining of blood in the urine intermittently for 3 years. He stated that in 1943 and again in 1944 tumors of his urinary bladder had been removed elsewhere with an electric cutting instrument introduced through the urethra. Cystoscopy was done, and in the region of and obscuring the right ureteral orifice was a 3-4 cm. papillary tumor. The right ureter could not be catheterized and an intravenous pyelogram revealed non-visualization of the right kidney. At operation the right kidney and ureter were removed en masse.

Inspection and section revealed a papillary carcinoma of the renal pelvis with extensive ureteral implants particularly in the lower ⅓ of the ureter. Undoubtedly, the "bladder tumors" previously fulgurated were implants from the renal tumor. Had a thorough search been made earlier, delay in removing the primary tumor would not have been as great.

CASE 4, a 46-year old white male, was seen first in January, of 1931, complaining of pain in right loin and gross hematuria. Studies at that time demonstrated a right hydronephrosis, thought to be secondary to uretero-pelvic obstruction and a right nephrectomy was done. Intermittent gross hematuria persisted and in December of 1931—11 months later—a right ureteral tumor was demonstrated and a ureterectomy done. Hematuria persisted and in June, 1932, a suprapubic diverticulectomy was done. Inspection of the interior of the diverticulum revealed a papillary tumor. This man, now 63 years of age, is living and well. Continued search for the cause of blood in the urine paid nice dividends in this case!

Time does not permit a discussion of that most important subject—bladder tumors; however, a few remarks are in order. Hematuria—usually painless—is the cardinal symptom of tumors of the bladder. Usually the tumor bleeds briefly. The patient takes a "sure" cure. The bleeding stops. It is agreed to wait a while to see what will happen next. A year goes by before any decision is reached—a year in which the tumor is growing, infiltrating the bladder musculature and becoming increasingly difficult to conquer.

"It is scarcely believable that this is the case, yet the Carcinoma Registry shows that out of 508 cases of bladder tumor with gross hematuria as the initial complaint, only one-half were diagnosed in the first year, almost 20 per cent had to wait three years for diagnosis, and 26 cases (about 5 per cent) actually were not diagnosed for seven years or more." (Ed. L. Keyes).

Recently, I attempted to destroy a carcinoma of the urinary bladder in a physician, age 55, who had had 3 bouts of gross painless hematuria in 3 years. This physician—well known in the Public Health Service—had waited to see what would happen. A colleague had suggested—at the time of the first attack—that the physician probably ought to see someone.

Lastly, allow me to present a case of urethral cancer.

CASE 5 was a 65-year old white male who entered the Johns Hopkins Hospital in September,

1941, complaining of intermittent hematuria of 10 months' duration. Inquiry revealed that he had been receiving prostatic massages every two weeks for this 10-month period. Urethroscopy and urethrograms revealed a tumor of the bulbous urethra. This was excised by block resection of the urethra with anastomosis of the proximal and distal urethral stumps. Last report, July, 1947, had it that this man was alive and well and without recurrence of his tumor—a squamous cell carcinoma of the urethra.

In conclusion, forgive me for the brevity of this presentation, but let me plead for the importance of blood in the urine and for vigilance of search for its cause!

Physicians' Incomes.

Physicians' incomes are highest on the Pacific Coast, lowest in the Middle East and New England, according to a new analysis of the incomes of doctors in private practice, made public by William Alan Richardson, editor of *Medical Economics*, national business magazine for physicians.

The area where the average income of M.D.'s is lowest ($9,347 net a year) is reported to be the Middle East, comprising the states of New York, New Jersey, Pennsylvania, and Maryland. Close second is New England, with a net average of $9,445. New York is lowest for the entire country at $8,709 net, vying with the Massachusetts low net of $8,806. Virginia has a net average income of $11,858.

The Far West average net income for physicians is $14,227. California hits the very top with a net average of $14,293. Texas is second highest at $14,098 net average. Florida also reports high incomes for doctors. The net average income there is $13,913.

In communities under 5,000 the average net income was $9,436; from 5,000 to 50,000, $11,619; from 50,000 to 500,000, $13,047; from 500,000 to 1,000,000, $13,137; and over a million, $9,453.

Mr. Richardson called attention to a previous survey made by *Medical Economics* which revealed that fees paid by patients to physicians in 1947 averaged $2.28 at the doctor's office, $3.34 for house calls during the day, and $4.89 for house calls at night.

On the average, doctors have hiked their office call fees 37 per cent during the last ten years. In that same period, the general cost of living has soared 67 per cent.

New Books.

Among recent acquisitions to the Library of the Medical College of Virginia are the following which may be had by Virginia doctors under usual library rules:

Bamford—Poisons, their isolation and identification. 2d. ed.
Bergler—The battle of the conscience.
Bethe—Elementary nuclear theory.
Bluemel—War, politics and insanity.
Brams—Treatment of heart disease.
Elledge—The rehabilitation of the patient; social case work in medicine.
Ficarro—Essays on historical medicine.
Goar—Handbook of ophthalmology.
Hamilton and Simpson—Calculation of analytical chemistry.
Hart—Psychology of insanity. 4th ed.
Kingsley—The nature and condition of learning.
Lilge—The abuse of learning.
Lillie—Histopathologic technic.
Long—A, B, C's of sulfonamide and antibiotic therapy.
Miller—You and your doctor.
Myers and McKinlay—The chest and the heart.
Sherrington—The integrative action of the nervous system.
Sutherland—Principles of criminology. 4th ed.
Thoma—Oral surgery. 2 vol.
Walter—Aseptic treatment of wounds.

THE PSYCHOSOMATIC EFFECTS OF CHRONIC INVALIDISM*

DAVID C. WILSON, M.D.,
Charlottesville, Virginia.

INTRODUCTION

The interest of the medical profession has been centered by many writers on the origin of diseases from psychic causes, but little emphasis has been placed on the effects on the personality of diseased organs or the presence of illness whether psychogenic or somatogenic. The problem of curing the chronic invalid is the job of the practitioner, because it is to him that the patient returns for care after the specialist has failed. It is up to the family doctor to care for the chronic invalid when his disease can't be cured or at least when his recovery has been delayed beyond the usual expectation in the situation presented by his case. The general practitioner, therefore, should have a great interest in the effects of chronic illness on the personality, especially when the psychic disturbances may be a major cause for the continuation of the somatic dysfunction.

In 1946 a psychosomatic medicine monograph entitled "Chronic Disease and Psychological Invalidism", a psychosomatic study by Jurgen Ruesch and collaborators, was published with the sponsorship of the American Society for Research in Psychosomatic Problems. This monograph described in detail the study from the psychological standpoint of 187 patients afflicted with chronic diseases. They defined a chronic disease as a chronic condition from which human beings can be reasonably expected to improve. Diseases which lead inevitably to death were excluded. The criteria for selection were:

1. Every case had to have physical symptoms which had been treated by a physician as a physical disease.
2. The symptom had to persist over a period which exceeded the time commonly needed for recovery, and the treating physician had to have indicated his inability to improve the patient further with ordinary methods of treatment.
3. Excluded were: all psychoneuroses and psychoses without physical symptoms and psychoneuroses never treated for physical symptoms.

The results showed that the abnormal findings fell in the region of religious, marital, sex, pelvic, medical and childhood histories. Maladjustment was expressed in terms of disease, sexual and marital difficulties. The childhood history was characterized by the absence of grossly unfavorable economic or social circumstances, but more subtle difficulties related to inter-personal relationships were definitely present. These workers, Ruesch and collaborators, by the use of a short time psychotherapy which included both individual and group therapy were able to bring about recovery in these persons with chronic disease. Rehabilitation through psychotherapy in persons with chronic diseases seemed to these, apparently very careful workers, to be distinctly worthwhile.

If this is so, it would seem also worthwhile to spend a little time considering what happens to the personality in chronic disease and then how this knowledge could be applied. The understanding of this personality reaction calls for an analysis of the relationship of psyche to soma which would permit insight into the psychosomatic effects of chronic disease.

The development of the body image is the first consideration. Whenever we are interested in anything, that thing is represented by a group of ideas in the mind. If we are interested in an experiment, that interest does not leave the mind but stays there grouped around the ideas which form the image of that experiment. If we love a girl, that love does not leave the mind but stays there appended to the mental duplicate of the one we love. Also, if we hate, we often think that this hate is projected to injure our enemy, while all the time the object to which the hate is attached resides within our own psyche to exert its baneful influence on us alone. In the same manner the different parts of our body have psychic representation. An image is formed of the heart, the lungs, the skin and the bones just as objects outside of ourselves are represented. This representation, however, differs from that of outside objects, since the parts of our bodies differ in imagery according to our racial inheritance, our education, and our emotional coloring. Thus the

*Read before the Medical Society of Virginia at its Annual Meeting in Roanoke, October 13-15, 1947.

brain would mean one thing to a neurosurgeon and another thing to a racketeer. The heart to a lover differs from the heart we see at the autopsy table, yet the emotional component attached to the image of the heart in the psyche must include both that of the lover and of the pathologist since tradition as well as universal practice relate the tender emotions to the concept heart.

CHART I

Image of Object in psyche →	Has attached meaning according to →	1. Racial tradition 2. Experience—conscious, unconscious 3. present situation
Image of Organ →	Has attached meaning according to →	1. Tradition of Race 2. Experience—conscious, unconscious 3. Present situation

The everyday speech of people indicates the structure of the body image. The representation of our organs in our psyche is far different from actual body structure and has a connotation to the individual which measures his stage of individual development, yet contains the many phantasies and misinterpretations of the past which have attached themselves to the organ image. These phantasies exist more or less buried in the borderline of consciousness. The so-called organ language gives us the clue to the attached meaning of many organ images. If we put our "heart" in a task, it is different than if we put our "belly" in it. We can't "stomach" a proposition if we "bite off more than we can chew". A man with no "guts" may turn his "back" on the proposal. He may get his "back up" and become "hard headed" about the matter. We have a man with "cold blood" or he may show a "touch of liver". He may have a "jaundiced" eye, or have too much "spleen" to be a comfortable companion. Defecation and urination are used to express disgust, hate and aggression. A person feels it in his "bones" that bad luck is upon him. Things that are right go to the right, wrong things to the left. Things to be ashamed of and hidden are put behind and in the lowest part of the back. Young women who marry old men unable to satisfy them sexually have low back pain. This pain can't be in the anus, which is too dirty to exist, but is placed just above, over the sacrum or sacro-iliac juncture.

Thus we see the heart is a center for tender emotions, the head is the leader and chief. To have a headache is perfectly proper, but to have confusion in this organ is disgraceful. The upper gastro-intestinal tract is the great receiving apparatus. We only take in what we can "swallow". The stomach shows our ability to stand things, while the "guts" designate our courage. Liver, kidneys, spleen, bones, blood, breath, food, urine and feces all have traditional meaning handed down through the ages, a childhood meaning, and a meaning to the adult. All these ideas are attached to the body image formed by the ordinary human being who rarely sees the back of his head, his dorsal, lumbar or sacral regions, who never sees his own organs, and has, unless medically trained, very little idea of where they are or what they look like, much less their true function.

In response to certain needs certain parts of the body are upset. This part that is upset is in close relation to the image of that part that exists in the psyche. As a babe we suckle the breast of the mother, we take in food and love into the gastro-intestinal tract. This pattern is laid down in the body image; then, later, when the man has revolted against the over-protecting mother, he yearns for love, but represses his yearnings. Then the part of the body where love is taken in is disturbed, since the image is closely related to the actual organ. These are the findings in the gastric neurosis that lead on to ulcer, or in the over-active patient striving for independence, jealous of his prerogatives, but all the time longing for the love he spurns. A similar but an opposite reaction occurs when the repressed hostile feelings against a dominant parent are expressed by a colitis with an alternate constipation, when gifts are withheld from the hated mother who formerly begged so for "the little man to make balls in his pottie", and with diarrhea which, in the traditional vernacular of the Anglo-Saxon, expresses the utmost in hostility and aggression. Thus, we see there is a close relationship of the traditional image, the childhood image, the adult image and the actual functioning of the gastro-intestinal tract. The heart, the liver, the lungs, the kidneys, and the head will be upset in the same way, when there is some personality need which, repressed into the subconscious, starts this vicarious chain of reactions which leads to a pathological form of satisfaction. Clinically, these conditions

are known as organ neuroses, but it is well to remember that it is primarily the organ as conceived in the body image that is upset, not the organ as known to the physician. The craving for love of the potential ulcer case involves the gastro-intestinal tract from the mouth to the stomach so that cutting out the ulcer or sectioning the vagus may not cure the anorexia or the globus. Also, it is well to remember that the neurosis represents a satisfaction of the personality need, although a pathological one, so that the removal of the pathology often produces a state of unsatisfaction calling for the use of more pathological mechanisms. Solution of the neurosis then should accompany all surgery on the organ neuroses to prevent subsequent personality disorders more serious in nature.

CHART II

Repressed need in subconscious → Disturbs attached meanings → Disturbs organ image

Disturbs organ function → Organ becomes diseased → Gives pathological solution to repressed need

Organs, however, do get sick from other than emotional causes. There are such things as heart failure, cirrhosis of the liver, arthritis, asthma, as well as pulmonary tuberculosis. Such diseases of the organs may be acute, when recovery is so rapid that there is little time for much personality change, or they may be slow in healing. Indeed, recovery may be delayed and then, as Ruesch has shown in his study, the personality problem becomes most important, and then some times the only relief is through psychotherapy.

CHART III

PATHONEUROSIS

Disease Organ → Disturbs Organ Image → Disturbs attached meanings

↕

Widespread Psychosomatic Disease

What is it that happens when an infectious or degenerative disease singles out an organ? First, its function is disturbed so that the patient becomes more aware of its presence. Perhaps it has functioned out of awareness before, but now becomes of great interest as it moves toward the center of the stage. As the organ thus reaches the focus of attention, its image becomes more vivid, as do all its connotations, both traditional and emotional. Soon all the disturbances in the vegetative nervous system, which usually accompany the personality's interpretation of the meaning of the organ image, are in evidence so that there is not only a sick organ, but a disturbance of systems of organs that are caught up in the interpretation of the meaning. Therefore, the tuberculosis or the cirrhosis have far-reaching personality effects similar to that seen in the organ neurosis described above, except that here the diseased organ is the starting point, while in the organ neurosis it is a personality need. Advertisers of drugs are well aware of this relationship. For example, Carter's Little Liver Pills even drive the clouds away and make life worthwhile again. In 1916 Ferenczi gave the name of pathoneurosis to the total personality response to organic disease.

Case No. 1: A man of 49 entered the hospital in November, 1944, complaining of asthma which he had had since he was 17. He had a spastic colon and nervous spells. It was found that he slept with his mother until he was 12. She was very demanding and very energetic. He hardly knew his father until he was 16. It was when he had to leave his mother at 17 that he had his first spell of asthma. At the time of admission to the hospital, he was married and had two boys who were both grown. He had severe attacks of anxiety which he alleviated by carrying a bottle around in his pocket with a nipple on it. In this bottle he carried a weak solution of ethyl alcohol. One or two sips on the bottle relieved his anxiety, and prevented his asthma and his colitis. As this went on there was some danger of his becoming an alcoholic, so he just carried distilled water in his pacifier. Thus this man had a suppressed need for his mother which could be satisfied by the bottle substitute. The need disturbed the respiratory system where he cried for his mother, so to speak, while the colitis expressed his hostility to her domination. The asthmatic reaction was part of the organ neurosis, but as it became chronic, it led on to chronic alcoholism and other psychosomatic disturbances. This last personality reaction should be classified as pathoneurosis and was secondary to the chronic disease which in this case was in the main psychogenic. Thus, we have an example of organ neurosis and pathoneurosis in the same case.

However, as the recovery is delayed, other changes take place in the psychic relationships. Often, as you may remember, when, as a boy, we had our

desires thwarted, we would take out our resentment on an inanimate object. If mother said we could not go to the ball game, we kicked a chair or a door to relieve our hostility. Also, when playing ball, we might run for a fly, stumble over a rock, and then when we had missed the ball, hit at the offending stone. Thus the sick organ begins to accumulate feelings and hostilities which formerly were directed outside the personality, but are now turned in as the interest leaves the object of former love or hate and turns toward the disturbing but more attractive organ image.

Case No. II: Especially in recent years, as women are fighting for place in a man's world, there is a great desire of many women to get rid of their uterus. The womb is the symbol of womanhood, as the penis is of maleness. All the envy and jealousy of the female for the male is often turned against the womb, so women go through many operations until at last they have accomplished castration. E.L.W. illustrates such a situation. This man of 42 has been nervous and depressed for two years. It was then his wife left him. They were married when he was 19. They lived together 22 years, and they have three children—all grown and married. E.L.W.'s wife had three operations on her pelvis. Finally she had her womb removed. She has gone to work and will not allow him to live in the house, so he now lives with his son after turning all his worldly possessions over to her. Her hatred of the feminine role caused sufficient pelvic discomfort for her to make a man out of herself and get rid of her husband. Ruesch, in his report, stated that self destructive tendencies were responsible in 73% of persons studied, for the delayed recovery encountered. The hostility to an organ or to a system may well lead to symptoms which in turn lead to mutilating operations.

As the disease becomes chronic the more the organ image becomes the center of psychic life, while to it are related the desires and hopes of life which are frustrated by the presence of the disease. Also, certain hostilities of life in which we were formerly interested now become engulfed in this new center of interest so that now the hostility is directed toward the disease.

Case No. III: A young man of 34 had a very ambitious mother who forced him to excel in every endeavor. He led his class in high school and in college. In the business world he was highly successful; indeed, he almost had the "Midas touch". Everything he touched was tinged with gold. He developed a dermatitis which he could not overcome. It itched and he scratched until he practically denuded his body. He would peel off great hunks of skin with apparent joy in unrestrained orgies of scratching. The disease represented his first frustration in life and he attacked the frustrating organ (the skin) with fury. Later, as he understood his disease as a revolt against the tyrannical perfectionism instigated in childhood by a perfectionistic mother, he began to accept his disease, was sufficiently relieved by hypnosis, and returned to work. This case illustrates both the frustrating effects of illness and the results of the suppressed hostilities, when directed against an organ which has been imbued with the emotional meaning detached from an external object and now applied to the diseased organ.

We may have hatred for a mother-in-law, but a bad bronchitis with cough diverts our attention from our former object of hate, while the emotion formerly directed toward mother-in-law now encompasses the infected organ.

Still another frequent complication in the psychological setting of chronic disease is the phenomenon of secondary gains. In discussing the organ neurosis above, it was pointed out that the neurosis presented a pathological solution which was some times dangerous to remove unless the underlying conflicts were solved.

Case No. IV: Mrs. E. L. J., a woman of 60, entered the University Hospital on 8/14/47. She had been unable to walk for a year. The patient's husband died approximately four months before she became sick. He was 75 years old and had been crippled for several months. She was very religious and very strict with her four girls and one boy. She ruled them by her illness, as they danced in attendance. One married daughter who stayed out after 11:00 o'clock at night was told that she must mend her ways. The patient was temporarily relieved with hypnosis, but at the time of discharge was not sure she could remain well if her daughters did not behave according to her desires. It was necessary to break up the family to prevent a return of illness. Here the secondary gains from the illness were so great that the patient could not get well.

Here there is a similar but a different use of dis-

ease for personality benefit. The well known example is the patient who feigns illness to prevent discharge from the hospital, or the mother who simulates paralysis to prevent her daughter's escape from the home. There are many secondary gains which may be obvious, but there are many more which are as subtle in their manifestations as they are mysterious to the patient. Secondary gains frequently work beyond the threshold of consciousness to cause delayed recovery from chronic disease, so that it is only with the greatest patience that the doctor can re-educate the invalid in order to wean him from this form of pathological achievement.

In direct relationship to secondary gains there is a final process to be described. There is a tendency in most people when sick to become more dependent. Frequently this goes on to childishness and a desire to be mothered. Men seem to show this trait more than women, but nevertheless it is a reaction which is so widespread that it is practically expected by all that care for the sick. There is a definite relationship of this reaction, namely, the return toward childhood and the withdrawal of interest from the surrounding objects to one's own self or to one's own body image. The more the body becomes a source of interest, the more there is a tendency to regress, that is, use the type of behavior formerly used at an earlier age period. A neurosis is defined as a personality reaction in which an adult attempts to solve a conflict by means of infantile techniques. A psychosis results when the personality is so caught up in self worship that the entire response is infantile or archaic. In other words, the turn backward and inward that accompanies chronic illness is a serious matter and often leads to personality regressions which remain permanent after the disease is cured. Indeed, the resulting state may be more serious than the disease. This is seen in children with long standing orthopedic illnesses, and frequently plays a part in post-partum psychosis.

Case No. V: This man of 41 is now in the hospital because of pain in the lumbar region of his back which travels around his right side and down into the groin. He has had this since 1938. Besides the pain, which he still has, he suffers from inability to concentrate and fears of impotence. He has lost interest in his children and in his work. He feels constantly obsessed by the presence of this pain. Since 1938 he has had numerous cystoscopic and proctoscopic examinations. He had his gall bladder out in 1939. In 1940 he had an exploratory laparotomy on the left. In 1942 the gall bladder region was explored. In 1943 he had a fall following which his coccyx was removed. In 1944 he had a fusion of his dorsal spine for pain in that area. In 1945 he had removal of spicules of bone in the coccyx region for the pain. In 1946 he had a removal of a herniated disc and in April of 1947 a rizotomy was done for the relief of the pain. This man is now showing definite evidence of a psychotic regression. He may have had an organ neurosis to start with, but the constant surgical attack on the involved area has centered his attention into himself so long that now his reactions are fantastic, childish and his obsessions are becoming obvious delusions.

CHART IV

PSYCHIC DISTURBANCES FOLLOWING CHRONIC DISEASE

1. Systems disturbed through attached meaning of organ image (similar to organ neurosis).
2. Frustration of personal desires.
3. Emotion related to outside person or thing attached to disease.
4. Secondary gains.
5. Increase in self-interest causes pathological reversion to childish behavior, neuro-psychosis.

In summary, therefore:

1. A chronic disease may upset the organism as an organ neurosis does when the whole system related to image of the organ is upset. An infection of the lungs may be accompanied by a disturbance of the whole respiratory system. This in turn may solve some primary need of the individual making the disease of value to the personality since it allows a pathological adjustment of a buried conflict.

2. Chronic disease may cause frustration of hopes and desires which in turn causes emotional reactions to the frustrating disease.

3. The emotion which is related to an outside object from which the disease has caused a withdrawal of interest may be attached to the crippling disease.

4. The chronic disease picks up secondary gains as it goes along which makes it of value in the effort of the personality to adjust to life. This process makes cure less desirable from the person's point of view and more difficult from that of the doctor.

5. There is always a tendency of the personality

to regress toward childhood in the face of illness. This may be a regression in part such as seen in a neurosis, or a total regression such as seen in a psychosis. Both complications may be seen in practically any chronic disease.

We can conclude, therefore, that there are psychic accompaniments of chronic disease which lead on to other somatic disturbances, which cause delayed recovery from the chronic disease. Every chronic disease has these complications to some degree; therefore, their cure is the doctor's job. This cannot be done by the ordinary medical procedures. These patients are too numerous to refer to the specialist, so they must be treated by the man who works in the home. The attack is by means of a planned psychotherapy. This is a definite job which takes time, at least ten to twenty hours, over a two or three month period. The first step is a show of interest in the patient himself more than in the disease. The meanings and purposes of the illness then come to light as the patient gives to the doctor the story of the development of his personality. The doctor interprets this and then guides the patient in the steps that are necessary to remold the life, because nothing is truer than that, if there is only talk and not action and no change in attitudes and behavior, nothing will be accomplished.

The patient will transfer some of the interest from his organs to his doctor and will tend to become dependent on the doctor-patient relationship. This transfer in turn has to be explained away so the patient does not remain crippled by new secondary gain. Frank discussion with a development of insight will bring this about. Thus brief psychotherapy but a planned and well-organized one, bringing understanding and independence to the patient, leads to a cure.

Discussion

DR. WALTER B. MARTIN, Norfolk: The psychomatic medicine is as old as time, although only recently has it developed a literature or become dignified by a special appellation. The pool at Bethesda was a spot sought out by people who came to bathe in its waters and be freed of their diseases. When Naaman came down to Israel because of an untractable skin condition, he was told to bathe seven times in the River Jordan and he came out clean. Psychomatic medicine is not a new thing. The old family physician has practiced psychomatic medicine for years, but he did not use the terminology that we use now.

We all realize that an individual's mental attitude has a profound effect on the function of his organs, and may even lead to the development of physical disease. We further know that physical disease, in turn, reacts upon the mind. We are constantly encountering examples of this in our everyday practice. I doubt very much, however, that many of the situations that produce these conditions are as deeply buried in childhood experiences as Dr. Wilson's paper would suggest. More often there is a much more prosaic explanation. Most of the functional disorders as seen from day to day arise from rather simple causes. There is nothing particularly obscure in the trend toward invalidism in the weak individual who has experienced relief from responsibility that comes with physical illness. Family doctors have observed this for years. Being acquainted with the families in his community intimately, he knows that some are unstable, lazy and irresponsible, and that some are industrious, ambitious and responsible. I believe the issue has been clouded by a too ready acceptance of the idea that we are mastered by influences that go back to childhood. We are encouraged to think that we are not responsible for our own conduct, but that what our parents did to us, how they trained us and influenced us, relieves us of our individual responsibility for developing our own character. I believe that our approach to these patients should be through an effort to help them strengthen their character, and thus become capable of meeting and solving problems with which they are faced.

DR. WILSON, closing the discussion: It is unfortunate that there cannot be other discussors. I enjoyed Dr. Martin's discussion, but he made the mistake of including the personality problems discussed among all other so-called psychosomatic difficulties. These persons are those that have chronic illness, yet do not get well. There was no discussion of the incipient problems or the milder cases, such as he describes. It was felt by the author after considerable study that these cases of chronic disease that didn't get well could be segregated into groups for proper recognition and treatment. It is hoped that this descriptive classification will lead to more successful handling of this very troublesome group of medical problems.

THYROID SURGERY*

JOHN W. DEVINE, M.D., F.A.C.S.
JOHN W. DEVINE, JR., M.D., F.A.C.S.
Lynchburg, Virginia.

We are presenting 255 successive thyroidectomies that we have performed during the past 7 years. There were 2 deaths, both in thyrotoxic patients.

Fig. 1

We were unable to obtain an autopsy in either case, but upon the basis of clinical impressions death was attributed to tracheal collapse in one case and coronary occlusion in the other.

Photograph (figure 1) is that of a patient with a simple colloid goiter, who came in because of the following chief complaint: "Ain't nothing wrong with me, Doc, it's just my boy friend don't like this lump." The "lump" that was removed showed the typical appearance of this type of goiter, the low cuboidal epithelium and the large acini filled with colloid. The next photograph (figure 2) shows the patient three months after operation, at which time she was married—a successful case from all view points.

The diagnosis of nodular goiter is relatively simple; it is made by seeing or feeling one or more nodules. The chief diagnostic problem is determining the presence or absence of thyrotoxicosis, pressure, malignancy, or impending malignancy.

The only treatment is surgical. The question is which cases need treatment. If thyrotoxicosis or pressure is present, surgical intervention is necessary.

Fig. 2

The problem of determining malignancy or impending malignancy is the difficult question. We feel that single nodules should be removed. Means[1] states that if you find a single nodule in the thyroid, the chances are 2½ to 1 that it is a true neoplasm, whereas, if you feel several nodules, the chances of their being true tumors is only 1 to 4. Hinton and Lord[2] draw an interesting comparison between nodules in the breast and those in the thyroid. They report a 7.6 per cent incidence of thyroid cancer in clinically unsuspected nodular goiters as against a 6.7 per cent incidence of cancer of the breast in clinically benign "lumps" in the breast. They conclude that all nontoxic nodular goiters should be removed surgically because of the relatively high incidence of unsuspected cancer. Malignancy should be suspected if the patient gives a history of a rapid increase in the size of a preexisting nodule or the development of a nodule in a short period of time. In skilled hands, the risk

*Read at the meeting of the Medical Society of Virginia in Roanoke, October, 1947.

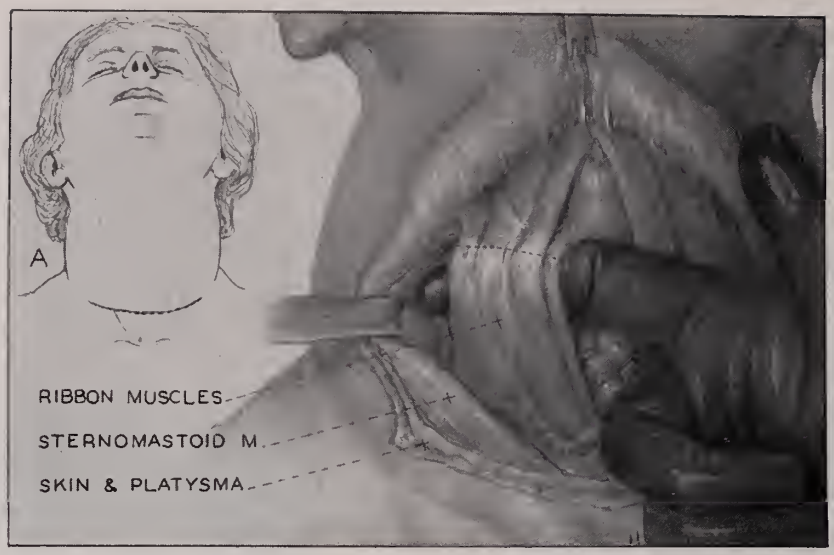


Fig. 3

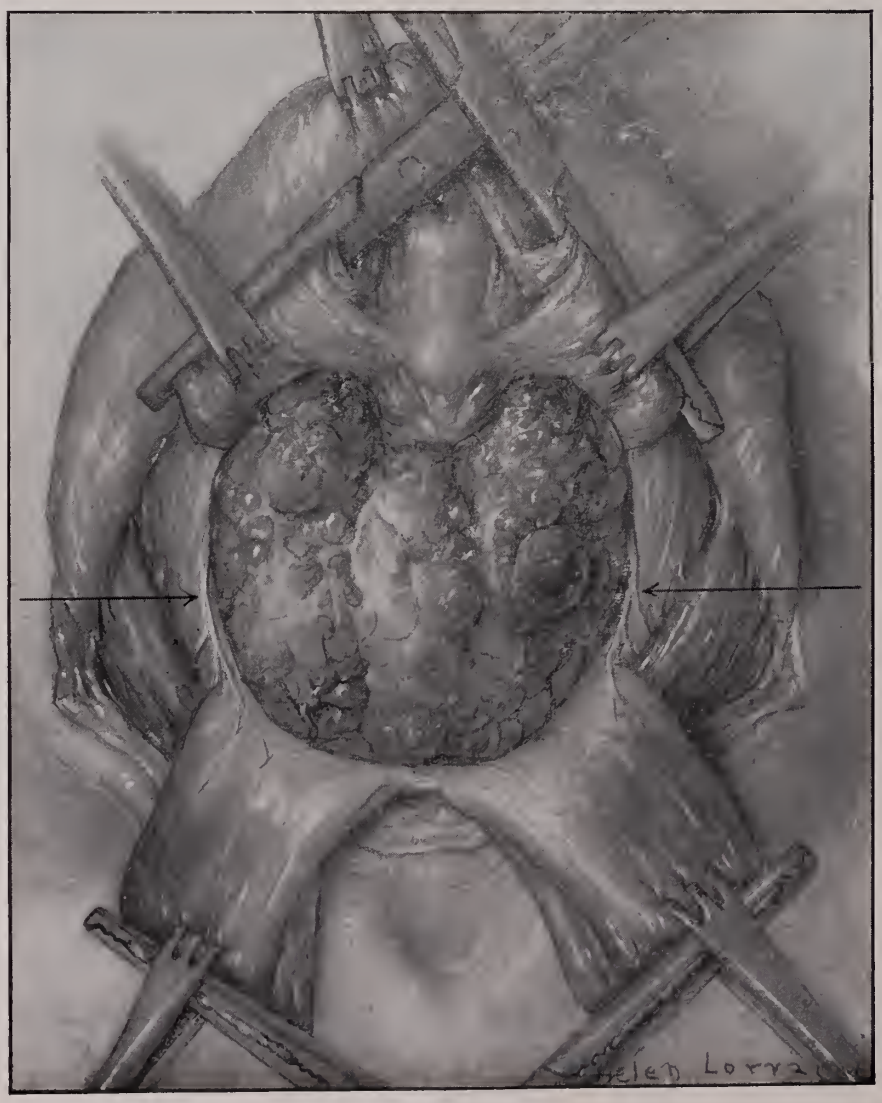


Fig. 4

to life involved in an operation for nontoxic nodular goiter should be close to zero. This should not be confused with the mortality of thyroids as a group, which includes those with thyrotoxicosis. There were no deaths in our series of nontoxic nodular goiters. One patient was a 42 year old white woman, who had a symptomless nodular goiter for 20 years. On admission, she complained of loss of weight and extreme nervousness of 1 year's duration. Her basal metabolic rate was plus forty. This patient made an uneventful recovery following a sub-total thyroidectomy. The next case was a 45 year old white woman who complained of difficulty in swallowing and breathing. Physical examination revealed nodules extending beneath the clavicle, and roentgenographic examination of the chest showed the deviation of the trachea by the substernal extension. Under intratracheal ether anesthesia, this goiter was removed without difficulty.

All the characteristics of primary hyperthyroidism: loss of weight, nervousness, exophthalmos, and the accompanying eye signs were shown by one of our patients, a 23 year old white woman. Her basal metabolic rate was plus fifty on admission. It is essential to have close cooperation between the internist and the surgeon in this type of case. Following iodine preparation, this patient had a subtotal thyroidectomy in one stage. Before the use of thiourea derivatives it was necessary in many of these cases to perform the operation in stages. In 4 of our cases it was necessary to do the operation in four stages. First one pole and then the other pole, then one side of the gland and then the other side of the gland were removed.

Fig. 5

The following cases will illustrate our experience with thiouracil. The first case was a 55 year old white woman who during the past year had lost 30 pounds of weight. Her pulse rate was 100 to 110.

She was markedly nervous and her basal metabolic rate was plus ninety. The patient was in the hospital for 2 weeks on iodine therapy without response. She was placed on thiouracil, and blood and metabolism studies were made at weekly intervals. After 3 months of this treatment, the patient's metabolism was plus five and she had gained 25 pounds of weight. The patient had an uneventful recovery following a sub-total thyroidectomy. Cases similar to this led us to be very enthusiastic, but cautious, about thiouracil. The next case was a 62 year old woman who was very toxic. In spite of careful observations of her blood and metabolism, she developed agranulocytosis 8 days after the drug had been discontinued and, in spite of vigorous therapy, died. We have now abandoned the use of thiouracil.

Propylthiouracil gives the same therapeutic response, and we have had no toxic effects from this drug which we have now used in approximately 46 cases.

A thyroglossal duct cyst has a characteristic midline tumor which moves on swallowing. If this type cyst is removed, it is necessary to dissect the duct through the hyoid bone, taking a small portion of the hyoid bone on each side to prevent recurrence.

The following figures illustrate the surgical technic that we use in hyperthyroidism. This is a modification of the Lahey[3] technic. A curved transverse incision is made one or two finger breadths above the clavicle (figure 3). The skin flap is dissected to the level of the notch of thyroid cartilage. The anterior edge of the sternocleido mastoid muscle is separated from the underlying pre-thyroid muscles. The sternocleido mastoid muscle is retracted and a high complete division of the ribbon muscles is made between two Kocher clamps. When these clamps are retracted, full exposure of the gland is obtained (figure 4). The middle thyroid vein is identified and ligated; then the gland can be ele-

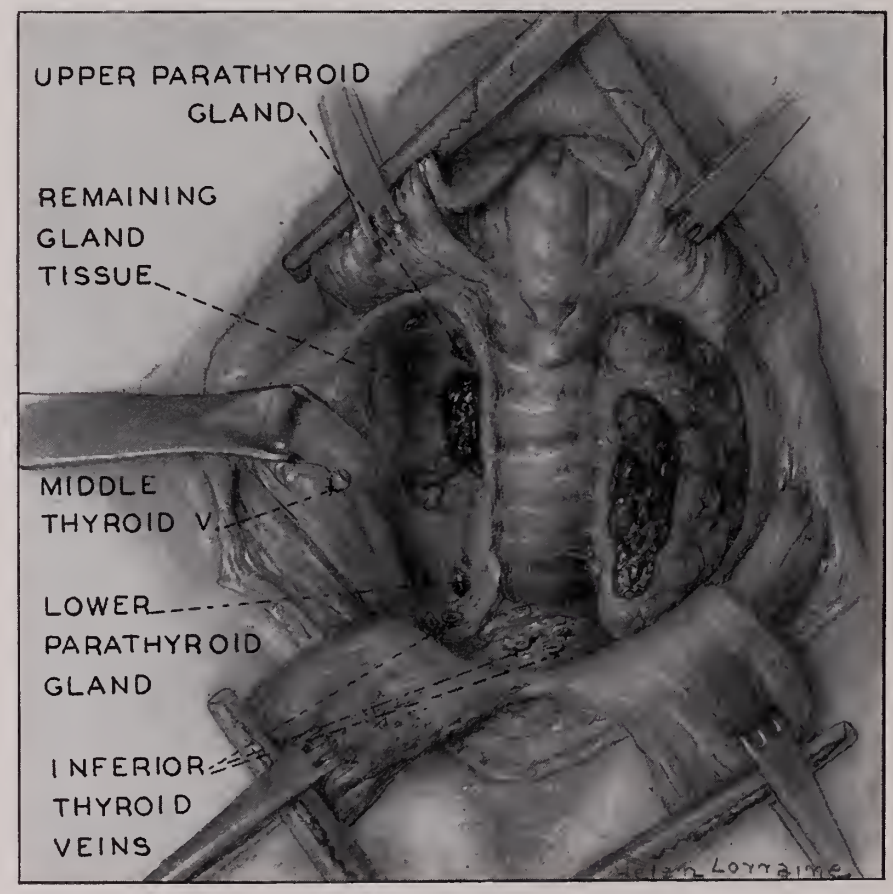


Fig. 6

vated with two tenaculums and rotated medially (figure 5). The dissection in the lateral gutter should be bloodless, as it is very difficult to identify the recurrent laryngeal nerve if the field is stained with blood. The carotid artery is identified and retracted laterally. The inferior thyroid artery is identified and ligated but not severed. The recurrent laryngeal nerve can now be identified as it passes over, under, or between the branches of the inferior thyroid artery. The superior pole can now be safely ligated and severed. The desired amount of gland is marked off with clamps and then removed. The trachea is bared and we are careful to remove the entire pyramidal lobe. Figure 6 shows the operative area after the glandular tissue has been removed. Triple zero chromic cat gut ligatures are used. The ribbon muscles are sutured and the fascia is closed in the midline. Clips are used to close the skin. A rubber tissue drain is brought out through the lateral edges of the wound in some cases. When a drain is used, it is removed in 24 hours. One half of the skin clips are removed on the second post-operative day and the other half on the third day.

BIBLIOGRAPHY

1. Means, J. H.: *The Thyroid and Its Diseases* (Philadelphia, Pa., 1937).
2. Hinton, J. William, and Lord, Jere W., Jr.: Is Surgery Indicated in All Cases of Nodular Goiter, Toxic and Nontoxic? *J.A.M.A.* **129**:605-606, October 27, 1945.
3. Lahey, Frank H.: Routine Dissection and Demonstration of Recurrent Laryngeal Nerve in Subtotal Thyroidectomy. *S. G. and O.* **66**:775-777, April, 1938.

610 Church Street

Drug Injection Aids Asthmatics in Surgery.

Intravenous injection of small amounts of the newly developed drug Isuprel provides control of asthma under anesthetics, thus removing one of the surgical hazards for patients suffering from this condition. Laryngospasm and acute bronchospasm suffered by patients while on the operating table sometimes prove fatal.

Doctors Ellin N. Cohen and Frederick Van Bergen report in the Bulletin of the University of Minnesota Hospital and the Minnesota Medical Foundation that Isuprel injections provide "complete relief throughout the surgical and post-operative periods". Initial dosages varied from 0.16 to 0.02 milligrams. Largest total dose was 0.068 milligrams. Rise in pulse rate and blood pressure was minimal in all cases.

Isuprel was introduced this year by Winthrop-Stearns Inc. Laboratory investigations were initiated by the then Frederick Stearns & Co. Division of Sterling Drug Inc., Detroit, and were completed by the Sterling-Winthrop Research Institute in Rensselaer. Dramatic relief in treatment of asthma using Isuprel was first reported in this country by Dr. Maurice S. Segal, of Boston City Hospital.

Peptic Ulcer Symptoms.

Persons who think that they have a peptic ulcer may, instead, have a small pouch near the stomach which produces pain and a feeling of fullness after meals, report three physicians of Beverly Hills, Calif.

Writing in the October 9 issue of *The Journal of the American Medical Association,* James G. Conti, Jr., Thomas P. Foltz, and G. Arnold Stevens, associate clinical professor of surgery at the School of Medicine of the University of California, Los Angeles, say that in three patients the pouches caused distress after eating. All three patients were cured when the trouble was corrected by surgery, according to the article.

Many persons who have the illness believe that it is due to peptic ulcers. Some sufferers have been labeled as psychoneurotic despite a long history of dyspepsia, the article indicates.

The pouches do not produce symptoms in the majority of persons who have them, the physicians point out.

THE DIAGNOSIS AND TREATMENT OF NEUROSYPHILIS WITH NEGATIVE BLOOD AND SPINAL FLUID WASSERMANNS*

JAMES ASA SHIELD, M.D.,
Richmond, Virginia

The purpose of this presentation is to point out the advantage of evaluating all data before making or rejecting the diagnosis of neurosyphilis. The presence or absence of one finding neither confirms nor denies the diagnosis of central nervous system syphilis. This includes the serology.

The diagnosis of neurosyphilis is made on the complete picture presented; namely, the complaint, history, examination, and laboratory study of blood and spinal fluid. Dattner[1] states, 'One should never forget that alterations in the spinal fluid findings only reflect a process; they are not the process itself. A positive spinal fluid, therefore, does not mean that there is something wrong with the spinal fluid, but rather that there is a pathologic process present that mirrors itself in the abnormal spinal fluid reactions. . . . It is understandable that pathologic processes occurring in the deeper structures of the central nervous system and not reaching the surfaces—as, for example, some vascular occlusions or deep-seated gummas—may not manifest themselves in spinal fluid changes."

The first change in spinal fluid is an increase in cell count, then increase in globulin and protein, followed by abnormal gold curve and positive Wassermann. When the spirochetes first invade the parenchyma, the total protein continues to increase until finally the gold curve and Wassermann reaction are positive in the typical case. As time goes on, even without treatment, the cell count and total protein often return to normal and the gold curve and Wassermann remain positive. However, in some cases, the Wassermann may become negative in what has been termed "burned out cases"—of tabes especially. Furthermore, our case of EAN shows that a few shots many years ago may have been a factor in his negative serology concomitant with a slow progress of taboparesis. That this can occur is shown in a case reported by Woods[2] in the *J.A.M.A.*—"The autopsy revealed old syphilitic meningitis, syphilitic endarteritis of the small blood vessels in the whole central nervous system. However, a spinal fluid study one year before death was negative. But there was clinical history of syphilis, and antiluetic treatment in several clinics." The concept that a negative spinal fluid Wassermann eliminates the diagnosis of neurosyphilis in early cases has been shown to be erroneous. Merritt, Adams, and Solomon[3] recently reported an analysis of the blood and spinal fluid Wassermann reaction in 80 cases of acute syphilitic meningitis. The blood Wassermann was positive in 48 and negative in 26 with 6 having no record. The spinal fluid Wassermann was positive in 69 and negative in 11. It was pointed out that "all of the cases with negative spinal fluid Wassermann reactions showed abnormalities in the fluid, indicating an active meningitis, i.e., pleucytosis, increased protein, or abnormal gold curve."

The first point of this discussion is that a negative blood or spinal fluid does not alone eliminate the diagnosis of neurosyphilis; I would add, nor does a negative history or examination.

Those of us in neurology are often impressed with the absence of a sore or secondary eruptions in the history of treated or untreated patients who have completely positive neurosyphilis. The observation has been made that individuals who have neurosyphilis frequently do not recall having either penal sore or secondaries. Then there is the asymptomatic neurosyphilis, which presents positive history, positive blood and spinal fluid, without subjective or objective neuropathy. I have just reported with follow-up 222 such cases treated with fever.

I have selected from our files a group of cases with negative blood and spinal fluid serology at the time of examination that have been diagnosed neurosyphilis and treated. The diagnosis was made on the complete picture; namely, positive history and positive findings other than serology.

We were strongly influenced by a history of penal

*Read at the annual meeting of the Medical Society of Virginia in Roanoke, October 13-15, 1947.

[1]Dattner, Neurosyphilis, Grune & Stratton, 1944. pp. 69, 71.

[2]Wertham & Wertham, The Brain As An Organ, Macmillan Company, 1934. pp. 491-492.

[3]Merritt, Adams & Solomon, Neurosyphilis, Oxford University Press, 1946. p. 41.

sore, of syphilitic husband or wife, the story of a few shots, sensory variations, cranial nerve defects, reflex changes, loss of muscle control, spinal fluid findings of increased cell count, increased protein and positive colloidal gold curve. It was on the basis of these positive findings, in spite of negative serology, that we have used the working diagnosis of neurosyphilis.

In a consultative practice where one sees usually the complicated and atypical syndromes, we accumulate atypical cases. This has made it possible to collect the following cases that I wish to review as examples of neurosyphilis with negative serology.

The second point is that with therapy a fairly good number of these individuals have been able to return to work without their debilitating complaints, which had not responded to rest and other non-specific treatment.

Case 1. EAN, age 48, *Presenting Symptoms*, September 10, 1942. Ringing in right ear; headache; nausea; pain in left ankle. Duration 1 year.

Story: Onset with throbbing on side of head and vomiting about 1 year previously. Had not worked since. Physical condition had been getting worse, resulting in weakness of right foot and wasting of left arm. Has had sharp pains in extremities; frequent paresthesias in all of these. Had gonorrhea but denied sore.

Neurological Examination:

(1) *Sensory Survey*: (Patient not cooperative) Touch reduced.

(2) *Cranial Nerves*: Fundi pale; left occulomotor weak; pupils react but small arc of constriction; left larger; nystagmoid movements; ptosis of left eyelid. Hearing—R.1/20—L.6/20.

(3) *Reflexes*: Deep hypoactive.

(4) *Muscular System*: Grip 110 in right and 40 in left; left side ataxia; Romberg slightly positive; gait flopping.

Laboratory: Spinal fluid and blood—negative.

Treatment: Malaria 70 hours above 102°.

Result: Returned to work as railroad engineer. Five years later (1947), developed severe arthritis and return of some of his mental symptoms after having several infected teeth pulled. (After inoculation with malaria, patient told that L.M.D. had given him a few shots many years ago. This was confirmed.) Did not maintain improvement.

Case 2. HBB, age 55.

Presenting Symptoms December 5, 1946: Onset two months previously. Legs hard to control; could not walk straight; would fall at times. Recurring attacks—Grand mal every 4 or 5 years for 20 years; petit mal every few months for 20 years.

Story: Penal sore developed 2 or 3 weeks after intercourse, treated by druggist with salve and took pills, 40 years ago.

Neurological Examination:

(1) *Sensory Survey*: Negative; subjective numbness sole of feet.

(2) *Cranial Nerves*: Hearing R. 10/20. L. 14/20.

(3) *Reflexes*:

A. *Deep*: Absent in lower extremities.

B. *Superficial*: Absent epigastric, lateral abdominals, hypogastric, and cremasterics.

C. *Pathological*: Absent.

(4) *Muscular System*: Unsteadiness of station; unsteadiness of gait; ataxia, upper and lower, marked.

(5) *Electroencephalogram*: Strongly suggestive of epilepsy with indications of a left sided focus.

Result—Better leg control—no spells since treatment.

Case 3. LAB, age 41.

Presenting Symptoms October 24, 1946: Vertigo (not able to work)—duration 3 weeks; trouble hearing, duration about 12 years; night back pain (cramps), duration about 15 years.

Story: Divorced husband has paresis at present.

Neurological Examination:

(1) *Sensory survey negative*

(2) *Cranial nerves*:

Optic nerve head, left, slight pallor; pupils irregular in shape, ptosis of right eyelid; hearing—profound bilateral loss; dizziness and unsteadiness precipitated by head movement.

(3) *Reflexes*:

A. *Deep*—right more active than left, lowers more active than upper extremities.

B. *Superficial*—hypogastric absent.
C. *Pathological*—absent.

(4) *Muscular system*: Unsteadiness of station and gait.
Result—Back to work, symptoms improved *only*.

Laboratory: Cisternal fluid—clear; cells O; slightly increased pressure; globulin normal; total protein 20 mgms. (10-20 normal).
Colloidal gold 0000000000. Flocculation negative. Blood flocculation negative.

Treatment: Malaria, 95 hours above 102°. Penicillin 9,500,000 units, given 50,000 units every 2 hours.

Results: Back to work with less complaints; vertigo and night pain much better.

Case 4. JGP, age 49.

Presenting Symptoms May 5, 1946, indigestion—duration 21 mos.; dizzy spells—duration 1 yr.; nervousness—duration few mos.

Story: Penal sore and treated by L.M.D. 20 yrs. ago.

Neurological Examination:

(1) *Sensory survey*—negative
(2) *Cranial nerves*—negative
(3) *Reflexes*: deep—active and relatively equal
Superficial—abdominals sluggish; hypogastrics and cremasterics absent.
Pathological—absent.
(4) *Muscular System*—left lower ataxia; finger to finger poorly done.

Laboratory:
Cisternal fluid—clear; cells O; pressure normal; globulin normal; total protein 25 mgms. Colloidal gold 112210000. Flocculation negative. Blood flocculation doubtful.

Treatment: malaria 105 hours above 102°; penicillin 10,000,000 units, given 40,000 units every two hours.

Results: back at old job; doing well.

Case 5. ELB, age 43.

Presenting Symptoms June 1, 1944, deafness, bilateral; vertigo; unsteadiness of gait and station; weakness of left arm and leg—duration 8 months.

Story: Husband had syphilis.

Neurological Examination:

(1) *Sensory survey*—negative;
(2) *Cranial nerves*—slight pallor of optic nerve heads
(3) *Reflexes*: deep—hyperactive; superficial—hyperactive; pathological—negative;
(4) *Muscular system*—Romberg positive; gait unsteady; weakness left arm and leg; ataxia of left arm and leg.

Laboratory: Cisternal fluid—clear; pressure normal; total protein 40 mgms.
Colloidal gold 1121110000. Wasserman negative. Blood Wasserman negative.

Treatment: malaria 93½ hours 102° and over.

Results: Marked improvement; "legs and hands fine". Two years later, symptoms returned; was put on non-specific protein injections; only took 5. Again better.

Case 6. ACS, age 41.

Presenting Symptoms May 18, 1946, aphasia and weakness right side of mouth.

Story: Spells of aphasia—5 yrs. and 2 yrs. previously.

Neurological Examination:

(1) *Sensory survey*—negative;
(2) *Cranial nerves*—slight weakness of right facial
(3) *Reflexes*—deep—hyperactive, right leg greater than left; superficial—normal; pathological—negative
(4) *Muscular system*—right facial weakness.

Laboratory:
Spinal fluid—pressure 160; globulin strongly positive; total protein 160 mgms.
Colloidal gold 112333000. Flocculation negative.
Blood serum—flocculation negative.

Treatment: Malaria 60 hours 102° and over. Fever stopped because of congestive failure.

Results: Aphasia and paralysis cleared up; returned to work.

Case 7. CDR, age 45.

Presenting Symptoms February 5, 1945, "Trouble controlling legs and feet", vertigo, insomnia, nervousness, duration 10 months

Story: 10 years ago had head injury, Wassermann found to be positive. No knowledge of how she could have syphilis; previously had had negative Wassermans. Treated for 5 years.

Neurological Examination:

(1) *Sensory survey*—left foot and leg "feel different" when touched.
(2) *Cranial nerves*: Hearing—R. 10/20. L. 16/20

(3) *Reflexes*:
A. *Deep*—hyperactive
B. *Superficial*—hypoactive
(4) *Muscular system*: Positive Romberg; unsteady gait; tremor of hands, tongue and chin. Ataxia of left leg

Laboratory: cisternal fluid—Cells O; total protein 20 mgms; Colloidal gold 0000000000. Flocculation negative. Blood flocculation negative.

Treatment: malaria 115 hours at 102° and over; pencillin 9,000,000, given 40,000 units every 2 hours.

Result: markedly improved; back to work.

Case 8. AGG, age 38,

Presenting Symptoms April 25, 1947, headache—6 or 7 years duration; gastric crisis— 1 year duration,

Story: Positive Wassermann 14 years previously; took 50 shots, since which time his Wassermann has been negative as far as he knows. Stopped work three weeks previously.

Neurological Examination:
(1) *Sensory Survey* negative.
(2) *Cranial Nerves*: blurring on nasal half of both optic discs; right pupil larger than left; diminution of hearing—R. 10/20 L. 15/20.
(3) *Reflexes*: Deep—Diminution in upper extremities
Superficial—Abdominals hyperactive
Pathological—Absent
(4) *Muscular System*—negative
Result—Improvement very slight.

Case 9. JS, age 43.

Presenting Symptoms August 2, 1943, unconscious spells; depressed.

Story: Diagnosed C.N.S. Lues with positive blood and spinal fluid; treated with 10 inductotherms; returned to work.

September 1, 1944, cisternal fluid clear; normal pressure; cells 4; total protein 15 mgms; colloidal gold 0000000000; Kolmer 4; Mazzini 2. Blood positive.

March 6, 1946, patient became depressed 3 weeks ago; hospitalized. Cisternal fluid—flocculation doubtful. Blood flocculation doubtful. Given Malaria 104 hours. 102° and over; pencillin (40,000 U q.2 h.) for 10,000,000 U.

January 1, 1947, cisternal fluid clear; no cells; normal globulin; protein 20 mgms; colloidal gold 0000000000; flocculation negative. Blood flocculation negative.

May 21, 1947, hospitalized for severe cramps in legs of 2 weeks duration. Treatment—penicillin (40,000 units q.2 h.)

June 7, 1947, received 5,760,000 units pencillin; discharged free of pain; comfortable since.

Case 10. CEF, age 41.

Presenting symptoms October 30, 1945, shooting pains in abdomen of 2 months' duration.

Story: Sore throat; positive Wassermann 1 year ago; had some shots.

Neurological Examination:
(1) *Sensory survey*: hypersensitive to pin at dorsal level, 7th through 9th on left; hyposensitive over external malleolus.
(2) *Cranial nerves*: A—R pupils; hearing R. 8/12 L.8/12.
(3) *Reflexes*:
Deep—hyperactive on left;
Superficial—hyperactive on left;
Pathological—absent.
(4) *Muscular system*
Gait unsteady on left foot; left heel to knee ataxia; intentional tremor of tongue

Laboratory: Cisternal fluid clear; pressure normal; cells 4; globulin normal; total protein 35 mgms; colloidal gold 0000000000; Wassermann negative. Blood Wasserman positive; flocculation positive.

Treatment: Penicillin (40,000 U q.2 h.), 10,000,000 units in 3 weeks.

Results: 4 months later Cisternal fluid clear; pressure normal; cells O; globulin normal; total protein 30 mgms; colloidal gold 0000000000; flocculation negative. Blood flocculation doubtful. Back at work—efficient and comfortable.

We observed very good results in eight of the ten patients, and some improvement in the other two.

In Summary: I have reported the foregoing as examples of cases with active neurosyphilis, nine of which had negative serology. One case had positive blood and spinal fluid when first seen, but later, with negative blood and spinal fluid, the patient developed severe shooting pains in his legs which responded to penicillin.

Tucker Hospital

VAGINAL CERVICAL SMEAR IN THE DIAGNOSIS OF UTERINE CANCER

WILLIAM BICKERS, M.D.,
PHILIP SAHYOUN, M. D.,
and
MARGARET MASSIE, R.N.,
Richmond, Virginia.

Although recent investigations have broadened the concept of cancer and greatly increased knowledge along the biological, chemical, physical and genetic fronts, there is yet no single method of treatment applicable to all malignant neoplasms. There is no satisfactory method of treatment for late cancer. This is not to say that treatment methods are not specific; indeed, surgery and irradiation are invaluable therapeutic agents and do effect cure in ever increasing numbers as the knowledge of cancer biology increases and improvement in technic evolves.

Approximately 32 per cent of all cancer occurring in both sexes is found in the female organs of generation. Sixty-three per cent of all cancer in women has its origin here. The cure rate for genital carcinoma in women based on five year survival is about 40 per cent for cervical cancer and about 60 per cent for fundal cancer if the experience of large clinics with careful follow-up is analyzed. Cervical cancer, Group I (lesion limited to the vaginal portion of the cervix), is said to have a cure rate of about 80 per cent, while Group IV (parametrium involvement) has a cure rate of about 5 per cent. Obviously the stage at which the diagnosis is made has great importance.

For many years George N. Papanicolaou, Professor of Anatomy at Cornell University, studied the vaginal cytology of animals and of women. His interest was in vaginal cytology as related to cyclic endocrine physiology. During the course of these investigations, he observed unusual and bizarre cell forms in certain smears which arrested his attention. It was known that the endometrial, cervical and vaginal epithelia in women are constantly exfoliating under the stimulus of the ovarian sterols. It was reasonable to assume that cancer arising upon these epithelia might have the same property. Accordingly, investigation was made upon patients with known cancer and these unusual cells were frequently demonstrated. These observations were reported in 1941[1-2] and two years later the excellent monograph entitled the *Diagnosis of Uterine Cancer by the Vaginal Smear* was published by Papanicolaou and Traut.[2-3-6-8] Since that time Meigs,[5] Ayre,[12-13-14] Jones,[10] and Neustadter[9-10] and others[7-11-17] have studied large series of cases, reporting an accuracy in diagnosis of uterine cancer of 95 to 97 per cent, using the technique described by Papanicolaou and Traut.

TECHNIC FOR STUDY OF VAGINAL CYTOLOGY

Since February, 1945, the authors have studied 1816 vaginal smears upon 1320 patients. These patients were seen in private practice and in the hospital clinics of the American University of Beirut, at Beirut, Syria. The smear was taken on each patient admitted to the office or clinic irrespective of her complaint.

In the early part of the study, material was aspirated from the vaginal vault by means of a glass tube attached to a rubber bulb as originally described by Papanicolaou.[1-4] This was squirted out upon a glass slide and the vaginal secretion distributed evenly over the slide by rolling the glass tube back and forth over the secretion. More recently the material was taken from the vaginal vault with a small spoon curette and spread directly upon the glass slide. This was found to be somewhat more satisfactory because the heavy viscosity of many vaginal secretions made it difficult to aspirate. Quite recently Ayre has recommended taking the specimen directly from the cervical os with a wood spatula after introducing a speculum, since this gives a higher concentration of cancer cells in the smear and reduces the time necessary for the study of each slide. An additional advantage claimed for this method is that the use of a spatula takes the secretion directly from the external os and may remove sheets of cells, thus actually giving a surface biopsy. We have just begun to use this technic and it seems to have some advantages. It certainly reduces the time required for study of the slides and, in view of the fact that

about 93 per cent of all cervical cancer originates at the squamo-columnae junction, the malignant cells can be picked up directly from their site of origin. If such technic is employed, however, it should always be combined with a vaginal smear because in the latter one has a pooling of the exfoliated cells from both the cervix and the endometrium.

After the smears are taken and spread upon numbered slides, they are dropped while still wet into a wide mouthed jar containing equal parts of 95 per cent alcohol and ether. It is essential that the slides be dropped into this fixing solution before drying in order to preserve the morphology of the cells. The slides must remain in the fixing solution for at least one hour but may remain for days before staining. If the slides are to be mailed for examination a drop of glycerin is placed on the slide after removing it from the alcohol-ether and another slide placed directly on the glycerin covered smear.[12] A rubber band is put around the two slides and then they can be mailed in an ordinary slide-mailing carton to the laboratory where they are to be stained and studied.

Method of Staining

1. Leave slide in fixative containing 95 per cent alcohol and ether in equal parts for one hour.
2. Rinse successively in 70% alcohol, 50% alcohol and distilled water.
3. Place slide in solution of Harris hematoxylin (Ortho Mod.) for four minutes.
4. Rinse well in distilled water.
5. Place slide in solution of 97 c.c. of 70 per cent alcohol plus 3 c.c. of strong ammonia for one minute.
6. Rinse successively in 70% alcohol, 70% alcohol, 80% alcohol and 95% alcohol.
7. Place slide in OG 6 for one and one-half minutes.
8. Rinse slide four times in 95% alcohol and four times in another solution of 95% alcohol.
9. Put slide in EA 50 for two minutes.
10. Rinse slide four times in 95% alcohol, 100% alcohol and xylol. (Stains are available from the Ortho Research Foundation, Raritan, N. J.)

Normal Vaginal-Cervical-Endometrial Cytology

During the reproductive years in patients who have full ovarian function, the smears will be seen to contain numerous cornified and precornified vaginal epithelial cells. These cells are large, irregular in shape with clear cytoplasm and a pyknotic nucleus. Occasionally one finds a small vacuole in the cytoplasm of a healthy vaginal cell; however, this is not the rule, the cytoplasm usually being clear and translucent. Occasionally granules may be found in the cytoplasm, this is indicative of an old and dying cell. The nucleus is always centrally located, has a sharp clearly defined nuclear membrane, nucleolus is rarely seen under high power magnification and a chromatic network is not visible. The fully matured cornified cell takes the red or orange stain, the acidophilic property being the result of a large amount of glycogen in the cytoplasm. The precornified cell, being basophilic in its staining properties, has a blue-green color. Leucocytes are seen in small numbers even in perfectly normal vaginal smears, but may be abundant where infection of the endocervix or vagina is present. Their number is also increased in the immediate postmenstrual phase and during the two or three days preceding menstruation. Large monocytes are occasionally seen and may be confusing since these cells have a large rather deep staining nucleus which occupies a large part of the total cell volume. However, the symmetrical and regular shape of the nucleus and the absence of a chromatin network serves to differentiate it from a malignant cell. Giant cells are seen quite frequently and may also be confused with malignant cells, but here again the nuclear changes of malignancy are absent. Basal cells of the vagina are round or are elliptical, the nucleus is vesicular and the cytoplasm takes the basophilic stain. Basal cells from the cervix as contrasted with those from the vagina are usually smaller and are most commonly seen surrounded by mucous. Basal cells are abundant during the menopause and their number in relationship to the cornified cells serves as a rough guide to the degree of estrogen deficit in the patient. Following irradiation in castrating dose and often subsequent to bilateral oophorectomy one finds an exceedingly high incidence of basal cells, often making up 90 per cent of the total epithelial cell family.

Endometrial cells are commonly seen only during menstruation but rarely may be found in patients with functional menstrual bleeding of non-neoplastic origin. As experience has accumulated in the study of vaginal cytology, it has become increasingly apparent that irradiation either by radium or x-ray produces morphologic changes in the genital epithelium which may persist for years following the irradiation. The immediate effect of irradiation is to cause marked swelling in both the nucleus and cytoplasm, often resulting in the presence of epithelial cells which are blown up to an enormous size. Monocytes and giant cells are abundant in patients who have been irradiated and may confuse one even after he has had considerable experience in the study of these smears. Indeed, we would hesitate to express an opinion on the probable presence or absence of malignancy in any patient who has undergone irradiation for any purpose. The cellular picture is so confused as to test the ingenuity of even the most experienced pathologist.

Cancer Cytology

The presumptive diagnosis of uterine cancer from the vaginal spread depends upon the finding of malignant cells separately or in groups intermingled with the normal vaginal cytology. The conventional histologic methods for the diagnosis of cancer by biopsy depend upon two well established and observed phenomena, namely, invasion of the basal membrane in neoplasms of epithelial origin and alterations in the size, shape and chromatization of the cell nuclei.

On the vaginal smear, the first criterion for diagnosis of malignancy is absent since the only cells seen are those exfoliated from the periphery of the tumor. Consequently, the presumptive diagnosis of cancer rests almost entirely upon nuclear changes. The nucleus of the malignant cell is hyperchromatic, usually large in relationship to the cytoplasm and often irregular in shape. The chromatin network is highly developed and under high power of the microscope can be distinguished. The nuclear size is such that it often occupies most of the total cell volume, leaving only a small periphery of cytoplasm visible. The round or slightly ovoid shaped nucleus characteristic of the normal cell is found but is accompanied by the most bizarre variations when one examines the entire smear. The nucleus may take on a tadpole shape with a long fibril-like tail, or it may be in the shape of a crescent and sometimes elliptical. Mitotic figures are rarely seen because the active mitosis in the malignant tumor is to be found in the basal portion of the tumor where the proliferation is occurring, the cells which are exfoliated being the mature often dead cells which have been sloughed off the surface. Vacuoles are seen frequently in the small rim of cytoplasm of the malignant cell, but this in itself does not enable one to say that the cell is malignant, for vacuoles of the cytoplasm may be seen in the mature normal cervical or endometrial cytology. Frequently groups *in situ* of desquamated or malignant cells are found, often having an appearance not unlike the cut section from a biopsy. Red blood cells are almost invariably found in the malignant smear, and leucocytes are always found. Malignant giant cells are not uncommon and may cause some difficulty in differentiation.

Presumptive diagnosis of cancer can rarely be made on the basis of a single microscopic field; it must depend upon examination of the entire spread so that one gets an idea of the degree of variation in nuclear size and shape.

Review of Cases

In our report there are 28 proven cases of uterine cancer in 1320 patients studied. Of this group there were 24 cases of cancer arising in the cervix or fundus in whom the clinical history and pelvic examination were such as to make one very suspicious of malignancy and would have under any condition indicated a biopsy for diagnosis. Fourteen of these cases obviously were malignant on the basis of pelvic and speculum examination alone. One could have made a diagnosis in this group without either the vaginal smear or biopsy. Indeed, in 6 of these cases the diagnosis had already been confirmed before they were referred to the authors. There were 10 cases who, upon pelvic and speculum examination, had a lesion of the cervix which was visible and bled readily on touch or had fundal enlargement with a history of bleeding, and in these cases diagnosis was made and in time would have been made without the aid of the vaginal smear. This leaves four patients without clinical history and with no findings on pelvic or speculum examination who showed a positive vaginal smear and the diagnosis of uterine cancer was subsequent-

ly confirmed by biopsy or operation. In other words, it is fair to say that, of 1320 patients studied, the vaginal smear picked up the diagnosis of cancer in 4 patients in whom the diagnosis would otherwise have been missed. These four cases are reported in some detail:

CASE REPORTS

Case 1. M. R. B., aged 42. This patient was seen in July, 1946. Her chief complaint was "hot flushes", the menstrual cycle had been regular and there was no intermenstrual bleeding and no vaginal discharge. The patient had borne three living children, the youngest being 8 years of age. There was a history of uterine carcinoma in the mother and a younger sister was said to be cured following a radical amputation of the breast for cancer of that organ.

Pelvic examination revealed a normal introitus of the vagina. The cervix was the site of a bilateral laceration but there was no erosion, no eversion and no evidence of endocervicitis. The uterus was normal size and the tubes and ovaries were not palpable. The vaginal smear showed an abundance of highly anaplastic epidermoid cancer cells. (Fig. 1). Patient was admitted to the hospital on July 18, 1946, where a curettage of the uterus and cervix was done. A small irregular area on the anterior cervical canal ½ cm. above the external os was found. This was submitted for frozen section examination and the patient was immediately subjected to a total hysterectomy.

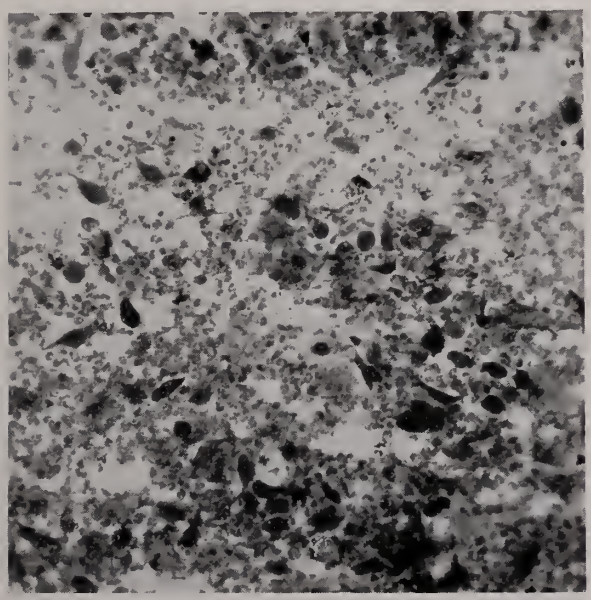


Fig. 1. There are many hyperchromatic cervical epithelial cells, nuclei are irregular in size and shape. In many of the cells, a well developed chromatin network is discernible. There are many leucocytes and occasional red blood cells.

Pathologic report disclosed a specimen consisting of uterus and cervix. There was a moderate fibrosis throughout the myometrium. The endometrium was grossly normal. On the anterior wall of the cervix there was a small elevated area, 2 mm. in diameter, the surface of which had apparently been traumatized. Microscopic examination revealed an endometrium in the proliferative phase. Cervix section taken from the anterior cervical canal, ½ cm. above the squamo columnae junction, showed a highly anaplastic grade IV epidermoid cancer.

Case 2. C. R. S., aged 32. She was first seen on January 8, 1947. At this time her chief complaint was sterility. Patient had been married five years without conception. The menstrual history was normal. There was no intermenstrual bleeding and no bleeding following coitus.

Pelvic examination revealed the cervix posterior and it was normal in appearance. The cervical epithelium had a clear shining surface. The uterus was normal size and anterior, freely movable, and the adnexa were not palpable. Vaginal smear done on January 8, 1947, revealed a few scattered epithelial cells having a morphology compatible with malignancy. The smear was repeated on January 11. At this time the smear was taken directly from the external os and the cervical canal. The slide was seen to contain numerous hyperchromated nucleated cells which were highly suspicious of cancer (Fig. 2). She was admitted to the hospital January 18, 1947. At this time a transverse incision was made in the cervix and the anterior wall of the cervix everted with a tenaculum. A granular area which bled on touch was found in the posterior cervical canal near the external os. Biopsy was taken at this area and a frozen section was done immediately with a report of squamous cell cancer of the cervix. 50 mgm. of radium in brass and rubber was placed in the cervical canal, and 50 mgm. of radium in brass and rubber tandem was placed across the external os. This was left in place for 50 hours and then removed.

Pathologic report on paraffin section revealed a squamous cell carcinoma of the cervix, Grade I.

Case 3. C. T. R., aged 28. Patient was first seen on November 18, 1945. At that time she com-

plained of spotting following coitus. The menstruation had always been irregular with a cycle ranging from 22 to 38 days. She was the mother of

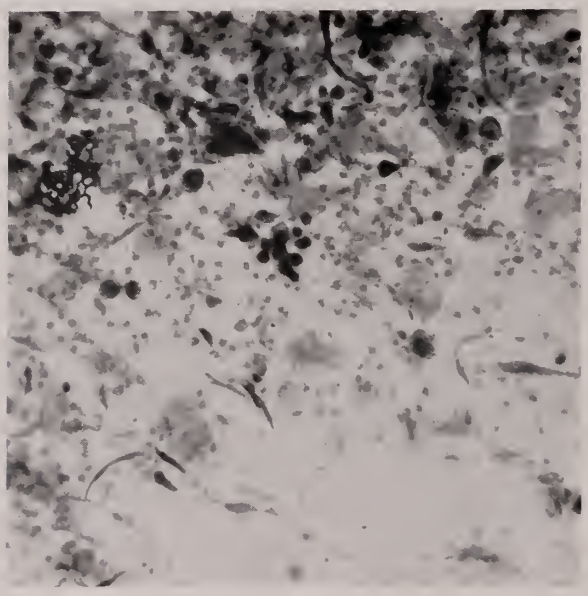


Fig. 2. Normal cornified vaginal epithelial cells with pyknotic nuclei are seen along with many normal basal vaginal cells. Near the center of the field there is a cluster of cancer cells in which the nuclei are hyperchromatic and scattered throughout the field are several elongated "tadpole" cells.

two children, aged 8 and 4 years, the second delivery having been complicated by a placenta praevia.

Pelvic examination showed that the external os was the site of a stellate laceration. There was some erosion but nothing to arouse the suspicion of malignancy. A cervix smear was taken with cotton applicator and another taken from the vagina. The cervix was then electrically coagulated in the os. The vaginal smear and cervical smear showed numerous anaplastic cells. (Fig. 3). There was some blood and much mucus in the smear. Because of the suspicious nature of the cells, the vaginal smear was repeated three days later and the previous findings confirmed. She was admitted to the hospital where a cervical biopsy was done and 50 mgm. of radium in brass and rubber placed in the cervical canal and 50 mgm. of radium in a brass and rubber colpostat placed across the external os. This was left in place for 48 hours and then removed.

Case 4. A. R. C., aged 39. This patient was first seen on January 25, 1946. At that time she gave a history of regular cyclic menstruation, her only complaint being a severe and progressive dysmenorrhea of five years duration. There had been no alteration in the amount or duration of the flow.

Pelvic examination disclosed a large nodular uterus apparently the site of multiple fibroids. The cervix had a bilateral laceration with slight eversion of the anterior cervical lip. There was no bleeding upon manipulation of the cervix. The cervical smear taken at this time revealed numerous hy-

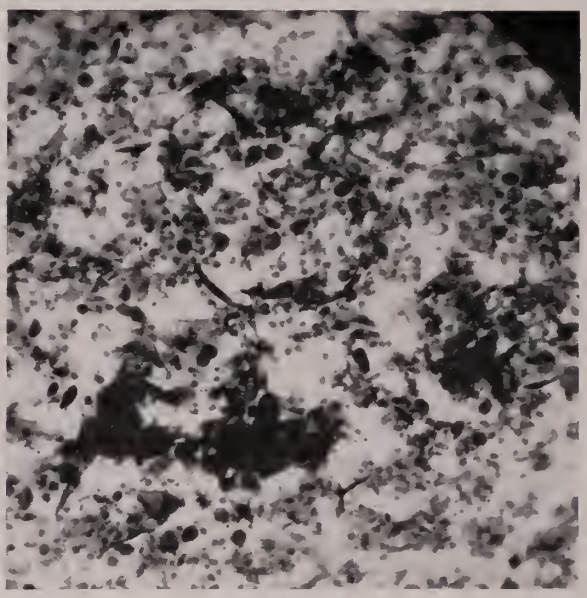


Fig. 3. The smear is filled with many leucocytes and red blood cells. Near the center of the field there is a large cluster of hyperchromatic, highly anaplastic cervical cancer cells. Just beneath the cluster there is an elongated cell of bizarre shape which represents a type frequently seen in malignancy.

perchromatic cells with irregular shaped nuclei. (Fig. 4).

The smear was repeated one week later and the same findings were present. She was admitted to the hospital and a biopsy of the cervix taken from the anterior lip. Biopsy showed a squamous cell carcinoma of the cervix, Grade III.

Treatment consisted of 50 mgm. of radium in brass and rubber in colpostat placed in the vaginal vault. This was left in place for 48 hours. Seventeen days after irradiation, the patient was subjected to a total hysterectomy.

Pathologic report following operation showed no evidence of malignancy on multiple sections of the cervix. There was marked distention of the epithelial cells, the nuclei and cytoplasm of many cells having a blown-up appearance characteristic of the early post-irradiation period.

SUMMARY

Papanicolaou has made a fundamental contr bution to the early diagnosis of uterine cancer by calling attention to the fact that exfoliated cancer cells appear at the cervical os and in the vagina during the very early stages of endometrial and cervical cancer. These cells can be picked up on smears and identification is made easier by the special staining technique of Papanicolaou which emphasizes the nuclear morphology of the epithelial cells. The individual cancer cell in the vaginal spread separated from its histological relationship to other cells at the site of origin presents some difficulty in identification, but its nuclear changes are sufficiently characteristic to enable one to be suspicious that the cell is not one usually seen in the normal vaginal spread. By careful examination and comparison, one is able to distinguish the hyperchromatic, well developed chromatin network and the irregular shape and size of the malignant nuclei as differentiated from the normal nuclei. Careful search occasionally reveals exfoliated cells occurring in groups or sets and recognition is made easier. Blood is usually present in the malignant smear along with cellular debris. Normal cervical and vaginal epithelial cells are always found mixed in with the cancer cells.

Fig. 4. There are many normal cornified vaginal epithelial cells and many leucocytes. Near the center of the field there is a sheet of hyperchromatic irregular shaped nuclei which are typically malignant in appearance.

It cannot be said that the average gynecologist interested in vaginal cytology is at this time capable of making a definite diagnosis of uterine cancer on the basis of the vaginal spread alone. Certainly for the average gynecologist without particular training in pathology there are many pitfalls of which he must beware. Into this category falls the author, and it is only by frequent consultation with a senior trained pathologist that we hope to gain some degree of proficiency in the verification of these smears. Experience, however, will enable the careful observer without special training to be suspicious of certain cells and thus comes the hope that in time the laboratory technician may be able to screen these smears in such a manner as to pick up the suspicious ones which can then be studied by a trained cytologist. For the time being, however, the diagnosis must be left to one with special training in pathology and it is not to be undertaken lightly by the inexperienced.

CONCLUSIONS

1. The Papanicolaou stain and cytologic study of the vaginal and cervical smear provides a satisfactory means for screening large numbers of patients in an effort to make the diagnosis of uterine cancer before clinical symptoms or signs leads one to be suspicious.

2. Accuracy of the method as compared with biopsy has been 92 per cent to 95 per cent in those clinics where trained personnel is available for study of the vaginal cytology. The limited number of cases in our series makes statistical conclusions impossible. There were 28 proven cases of carcinoma in 1320 patients studied.

3. There were 24 cases with carcinoma of the cervix or fundus in whom the clinical history or pelvic examination made the diagnosis apparent or aroused suspicion to the point where biopsy and currettage was done and would ordinarily have been done even before the era of vaginal smear. In all of these cases the vaginal smear was positive for cancer cells but these cases would have been diagnosed without the aid of the vaginal spread, and therefore are considered unimportant in this review.

4. Four cases of asymptomatic, unsuspected cancer of the cervix are reported in four patients upon whom routine vaginal, abdominal and speculum examination had failed to arouse suspicion of the lesion. The diagnosis in each case was confirmed

by pathologic study of the removed tissue.

5. There were two cases upon whom cancer was suspected on the basis of suspicious cells but in whom thorough curettage and biopsy of the cervix failed to confirm the diagnosis. On one of these patients a total hysterectomy was performed for multiple fibroids and multiple sections of the endometrium and cervix failed to reveal evidence of cancer.

BIBLIOGRAPHY

PAPANICOLAOU SMEAR TECHNIC

1941

1. Papanicolaou, G. N.: Some Improved Methods for Staining Vaginal Smears. *J. Lab. and Clin. Med.* **26**:1200-1205, April, 1941.
2. Papanicolaou, G. N., and Traut, H. F.: Diagnostic Value of Vaginal Smear in Carcinoma of Uterus. *Am. J. Ob. and Gyn.* **42**:193-206, August, 1941.

1942

3. Papanicolaou, G. N., and Traut, H. F.: New and Reliable Method for Early Diagnosis of Cancer of the Uterus. *M. Rec. and Ann.* **36**:235-238, February, 1942.
4. Papanicolaou, G. N.: New Procedure for Staining Smears. *Science* **95**:438-439, April 24, 1942.

1943

5. Meigs, J. V., and Others: Value of Vaginal Smear In Diagnosis. *Surg., Gyn. and Ob.* **77**:449-461, November, 1943.
6. Papanicolaou, G. N., and Traut, H. F.: Demonstration of Malignant Cells In Vaginal Smears and Its Relation to Diagnosis of Carcinoma of Uterus. *N. Y. State J. of Med.* **43**:767-768, April 15, 1943.
7. Papanicolaou, G. N., and Marchetti, A. A.: Use of Endocervical and Endometrial Smears In Diagnosis of Cancer and Other Conditions of Uterus. *Am. J. of Ob. and Gyn.* **46**:421-422, September, 1943.
8. Traut, H. F., and Papanicolaou, G. N.: Cancer of Uterus; Vaginal Smear In Its Diagnosis. *Calif. and West. Med.* **59**:121-122, August, 1943.

1944

9. Neustadter, J., and Mackenzie, L. L.: Comparative Value of Endometrial Biopsies and Vaginal Smears. *Am. J. Ob. and Gyn.* **47**:81-92, January, 1944.

1945

10. Jones, C. A., Neustaedter, T. T., and MacKenzie, L. L.: The Value of Vaginal Smears in the Diagnosis of Early Malignancy. *Am. J. Ob. and Gyn.* **49**:159, 1945.
11. Warren, S., and Gates, O.: Utility of Smear Technic (In Diagnosis of Uterine Cancer). *J. Tech. Methods* **25**:48-53, December, 1945.

1946

12. Ayre, J. E., and Dakin, E.: Cervical Cytology Tests In Cancer Diagnosis: Glycerine Technic for Mailing. *Canad. M. A. J.* **54**:489-491, May, 1946.
13. Ayre, J. E.: Cell Examination As Routine in Diagnosis: Vaginal and Cervical Cytology As Related to Abnormal Growths (Uterine Cancer). *South. M. J.* **39**:847-852, November, 1946.
14. Ayre, J. E.: Vaginal and Cervical Cytology In Uterine Cancer Diagnosis. *Am. J. Ob. and Gyn.* **51**:743-750, June, 1946.
15. Papanicolaou, G. N.: General Survey of Vaginal Smear and Its Use in Research and Diagnosis. *Am. J. Ob. and Gyn.* **51**:316-328, March, 1946.
16. Papanicolaou, G. N.: Diagnostic Value of Exfoliated Cells from Cancerous Tissue. *J. A. M. A.* **131**: 372-378, June, 1946.
17. Patricelli, L.: Smear, Value and Significance In Diagnosis of Uterine Carcinoma. *Northwest. Med.* **45**:496-498, July, 1946.

Medical Arts Building.

Floral Eponym

BRUNFELSIA

BRUNFELS, OTTO, 1464-1534

Brunfelsia is a genus of 20 species of tropical shrubs or trees of the potato family. B. Americana Lady-of-the-Night, Franciscan Nightshade, is noted for its yellowish-white, extremely fragrant flowers.

Otto Brunfels was one of the earliest German botanists. He graduated at Basel.

TETANUS NEONATORUM*
Report of a Case With Recovery

JOHN S. WEITZEL, M.D.,
Richmond, Virginia.

During the first twenty-five years of the 20th century as well as during the 19th century, tetanus neonatorum was an extremely frequent, and usually fatal disease; to-day it is, fortunately, a medical curiosity. The marked decrease in the number of cases reported in the past twenty years is due to the hospitalizing of most obstetric cases and the modern methods of obstetric asepsis. Only three cases in 20 years were reported by Cook County Hospital. This disease is caused by the Clostridium bacillus, discovered by Nicolaier in 1885. Its portal of entry is usually, if not always, through the unbilical cord in cases occurring within seven to ten days after birth. Ramon C. Negro and Tolosa Manuel, in reporting two cases cured with penicillin, mentioned the fact that the Clostridium tetani bacillus is known to be susceptible to this drug.

The incubation period is from three to ten days, average seven days. The length of this period is related to the time of the infection, which usually occurs between the ligation of the cord and complete healing.

ETIOLOGY

Unclean surroundings, contact with soil, unclean instruments such as contaminated cord scissors. Paradoxically as it might appear, the case I am reporting was delivered in one of the best hospitals in Richmond, with the usual sterile linen and sterile instruments. However, the mother made such rapid progress she was delivered in her room and not the O. B. room, and as frequently happens, a copious bowel movement took place at the same time the infant was born and the cord became contaminated with the mother's stool.

PATHOLOGY

There are a few lesions found in the nervous system. Cerebral edema and congestion, also meningeal hemorrhage are found.

DIAGNOSIS

The history is practically pathognomonic, that is, refusal to nurse on account of increasing difficulty in opening the mouth, occurring about the sixth day. It should be differentiated from cerebral hemorrhage which usually occurs 24 to 48 hours after birth, associated as a rule with a bloody spinal tap.

It should also be differentiated from streptococcic or meningococcic meningitis, the former known as sepsis neonatorum in which case streptococci will be found in the spinal fluid or meningococci later. Tetany appears later in life and presents a characteristic picture as a rule.

SYMPTOMS

Trismus is usually the first symptom noticed for feeding by mouth becomes impossible and the mouth can not be opened for examination. Stiffness of the muscles of the back follows and finally stiffness of the upper and lower extremities. The arms are held close to the side, forearms flexed on the arms and the hands on the forearm, the fingers are balled up into a fist clinched on the thumb. The forehead is wrinkled, eye lids squeezed tight shut, the mouth presents projecting lips like a snout with the corners of the mouth drawn into a sardonic grin. The abdominal muscles are set, practically board like. The legs become stiff and usually crossed in a scissors fashion. General twitching contraction of all the muscles follows which is produced by the slightest irritation, even tapping the baby's bed lightly, suddenly turning the light on, loud noises or inserting the gavage tube.

PROGNOSIS

The prognosis is grave. Mortality rate 90 to 95 per cent. The longer the incubation period, the more favorable the prognosis. While a majority of the authorities give a 90 to 95 per cent mortality rate, some authors give a 50 per cent mortality rate, and others say 75 per cent is about the average.

PROPHYLACTIC TREATMENT

Where tetanus neonatorum is endemic, the cord adjacent to the infant should be tied twice, it should be cut between the ligatures and tincture of iodine applied freely to the stump and adjacent area.

*Read at the annual meeting of the Medical Society of Virginia in Roanoke, October 13-15, 1947.

Active Treatment

1. *Nourishment.* Some authors recommend nutrient enemas of mothers milk, or milk formula. This I consider a loss of time as there is practically no digestive function in the rectum. Other authors recommend feeding by dropper. However, in a severe case and most cases are severe, the infant is unable to swallow. I recommend gavage, regardless of convulsive seizures, using standard new born milk formulae.

2. *Antitetanic antitoxin.* This should be administered in large doses intravenously and intramuscularly.

3. *Sedation.* This is most important. Bratusch-Marrian found that the deaths in his series were greatly reduced by the administration of 5 c c. of 4 per cent magnesium sulphate solution subcutaneously every second day. Magnesium sulphate, as you know, is a respiratory depressant and, with the infant usually cyanotic from the frequent convulsive seizures and artificial respiration necessary to recussitate the infant, I personally consider this not a treatment of choice, but rather contra-indicated unless the convulsive seizures are mild and infrequent. Most authors recommend chloral hydrate 1 to 2 grs. every 4 to 6 hours, well diluted in the form of a retention enema; bromides and morphine in very small doses as 1/250 gr. not often repeated are also recommended by some authors. I wish to state that complete sedation is absolutely necessary to recovery and in my opinion neither chloral hydrate nor bromides by rectum will supply sufficient sedation in severe cases, while morphine in a new born is a dangerous drug and should not be used.

Protection from light and noise is also important in the treatment of this disease as the turning on of a light or any noise not necessarily loud will precipitate a convulsion in the acute stage.

Case Report

History. A white female aged 7 days, of normal delivery, was seen at her home August 21, 1946, having been discharged the day before from a local hospital as normal clinically, and with the history of being treated as a normal infant since birth.

Physical Examination. Infant in generalized convulsion, temperature 100.8 rectal.

Skin—Two large vesicular lesions the size of a silver dollar on each shoulder.

Eyes—Tightly closed, in fact squeezed tight shut.

Face—Trismus, mouth snout-like with white froth being expelled from the oral orifice.

Abdomen—Board like.

K. J.—Not obtainable, legs too rigid.

Umbilical stump normal.

Sent to isolation in Medical College of Virginia Hospital at once.

August 22, W. B. C. 30,000. Blood normal otherwise. Spinal fluid negative.

Diagnosis. Tetanus neonatorum, pemphigus neonatorum, congenital structural scoliosis of dorsal and upper lumbar vertebrae with convexity to the left. Asymmetry of the head on right side posteriorly, the occipital bone overlapping the parietal bone, spina bifida of the cervical vertebrae, and umbilical hernia.

Treatment and Care.

1. *Formula*—

Evaporated Milk 4 Oz.
Water 8 Oz.
Cartose 1 tablespoonful
4 x 3 Oz.
Give by nasal feeding or gavage.

2. Duo-sulfon ointment applied to skin lesions twice daily.

3. August 22, 10,000 units of tetanus antitoxin was given intravenously and 10,000 units of tetanus antitoxin intramuscularly. The following day August 23, an additional 20,000 units of tetanus antitoxin was given intramuscularly after a negative skin test for sensitivity. A total of 40,000 units of antitetanic antitoxin was given.

4. A total of 220,000 units of penicillin was given and it was discontinued August 29, on the 8th day of the disease. On the 13th day of the disease, September 3, the pemphigus neonatorum was completely cured and the milk formula increased to

Evaporated Milk 6 Oz.
Water 12 Oz.
Cartose 2 tablespoonsful
6 x 3 Oz.
All feedings still given by gavage.

Weight 8 lbs. 5 oz. Through this stormy course the infant had made a net gain of nine ounces and had not regurgitated. On September 5, the 15th day of the disease, at 3:15 A. M. the following notes were taken from the remarks column. Temperature 106.6. Convulsing continuously since

2:40 A. M. Respiration shallow and very rapid—approximately 120 per minute. The infant was as rigid as a board from its occiput to its heels. Realizing that sodium luminal in ¼ gr. doses hypodermically q 4 H had little or no effect avertin in 200 mgm. doses q 8 h by rectum was ordered September 6. This medication proved very successful for, not until the avertin was started, was there any cessation in the frequency or severity of the convulsions. This dosage of avertin was continued for seven days when the dose was cut to 150 mgm., the interval gradually lengthened and discontinued on September 23, the 33rd day of the disease. On September 21, the Breck Feeder was started successfully.

The following day, September 26, the 36th day of the disease, a regular nursing bottle and nipple was ordered and proved successful. On the 38th day of the disease, September 28, 1946, the infant was discharged from the hospital as well.

Summary and Conclusions

1. Tetanus neonatorum is an uncommon disease in the United States.
2. Greater care should be exercised in the treatment of the umbilical cord if and when the cord has been exposed or subjected to ground or fecal contamination.
3. An immediate differential diagnosis should be made between tetanus neonatorum and sepsis neonatorum.
4. The treatment of infants with tetanus Neonatorum can be confined to five points:
   a. Antitetanic antitoxin in large doses at once both intravenously and intramuscularly.
   b. Penicillin intramuscularly in adequate dosage spread out over the acute stage.
   c. Complete sedation.
   d. Nourishment.
   e. Complete co-operation of House Staff and Nursing Staff, and I want to thank both of these organizations at the Medical College of Virginia most heartily for their untiring efforts in this case, without which I feel confident this infant would not have survived.

Maury Place.

Discussion

Dr. Lee E. Sutton, Richmond: In discussing Dr. Weitzel's case, for which he deserves much credit for saving the patient's life, it may be compared with other tetanus cases admitted to the pediatric service of the Medical College of Virginia Hospitals.

During the last fifteen years there have been admitted to the pediatric service thirty-seven cases of tetanus, eleven of which died, a mortality rate of 30 per cent. Among the cases admitted there were four who could be diagnosed as tetanus of the newborn. The oldest was eleven days of age. Three of these cases were admitted to the hospital within the last year. Among these newborns there was a mortality of 50 per cent.

Early treatment for tetanus neonatorum cases is very important. In outlining a treatment one must understand the pathology of the disease. The etiological agent is the Clostridium tetani bacillus, which has penetrated through the epidermal lining of the skin or mucous membranes of the oropharynx or gastro-intestinal tract. The umbilical vessels of the newborn, following birth, may be a portal of entry.

After entering the body, the bacilli remain as a focus of infection and do not enter the blood stream. The spore-bearing bacilli at the focus of infection under anaerobic conditions develop into active toxin producing bacilli. They give off an exotoxin which is absorbed into the surrounding tissues and by the way of the lymphatics and blood stream is carried to the nervous system.

It is thought by observers that the toxin affects the nerve cells themselves as well as the myoneural junctions, therefore producing a generalized spastic paralysis. Death results from asphyxia caused by the spastic paralysis of respiratory muscles or by secondary infection.

The treatment now recognized consists of treating the focus of infection, the toxemia, the spastic paralysis, the nutrition and the prevention of secondary infections.

The toxemia should be neutralized by antitoxin, dosages ranging up to one hundred thousand or more units. This will neutralize any free toxin in the blood stream or tissues. The toxin after it has once attached itself to the nervous system cannot be neutralized, therefore, the amount of fixed toxin in the nervous system determines the prognosis. The earlier the neutralization of the free toxin in the tissues the better the prognosis, since there will be less fixed toxin in the nerves which cannot be neutralized.

Due to the delay of administration of antitoxin, without favorable results, some observers have gone on record as saying that they do not believe antitoxin is of any value.

The local infection has to be treated. When recognized, incision and cauterization is the treatment of choice. In those cases where the focus cannot be determined penicillin should be used in large doses since there has been reported some deleterious effects by penicillin on the tetanus bacilli.

Tetanus spasm in a patient must be relieved before it becomes too detrimental. The drug of choice should be a depressant and one that has the least effect on the respiratory center; also, one that the physician is familiar with and can give in large enough doses to obtain the

desired results without handicapping the patient. If the spastic paralysis can be relieved sufficiently to save the patient's strength and prevent asphyxia, the patient should recover.

Secondary infection such as bronchial pneumonia and sepsis must be prevented.

Nutrition of the patient should not be overlooked and gavage feeding or parenteral feeding or both may have to be resorted to.

Prophylactic treatment through administration of tetanus toxoid has apparently given results in the army in the prevention of tetanus, with the demonstration of immune bodies in those inocculated. There is no protective means of immunizing the newborn against tetanus at the present time, except through aseptic technique during delivery.

QUESTION: How much antitoxin was used in this case?

DR. WEITZEL: Twenty thousand units.

Van Meter Prize.

The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held in Madison, Wisconsin, May 26th, 27th, and 28th, 1949, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy sent to the Corresponding Secretary, Dr. T. C. Davison, 207 Doctors Building, Atlanta 3, Georgia not later than March 15th, 1949. The committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays.

Broadcast on Diabetes.

In observance of National Diabetes Week, the American Medical Association will sponsor a special radio program, "Wanted: Unknown Diabetics," which will be broadcast on NBC stations December 11.

National Diabetes Week, December 6 to December 12, will be sponsored by the American Diabetes Association.

The program and other events during the week will attempt to warn an estimated 2,400,000 persons in the nation who do not know that they are diabetics or potential diabetics.

Speakers on the A. M. A. broadcast will be Dr. Elliott P. Joslin and Dr. Howard Root, Boston; Dr. Charles H. Best, Toronto, Canada; Dr. Lester J. Palmer, Seattle, western vice president of the Diabetes Association; and a patient who has successfully coped with diabetes for more than 25 years.

Music by the NBC orchestra, dramatizations written by William J. Murphy and directed by Norman Felton, and a memorial tribute to Sir Frederick Banting and to the dogs which made his experiments possible will be presented.

CORRESPONDENCE

Patriotic But Not Practical!

TO THE EDITOR:

The recent editorial in the *J.A.M.A.* concerning the shortage of physicians in the military establishment (also General Bliss' letter) appeals to the patriotic side rather than the practical one. The services need to offer more security to the individual physician but apparently they blithely overlook the several thousand dollars invested in equipment and office space as well as the fact that few practices are ready made. One can't reinvest in starting anew too many times in a life time nor expend one's self repeatedly in rebuilding a dormant or scattered practice. My five years of service presents me with first hand knowledge of these problems.

The military wants volunteers for short term duty—they have not appeared because these basic things are overlooked.

The need for "regulars" is partially blocked by physical standards which are too rigidly adhered to. Many of us served well with moderate physical defects which did not hinder our medical capacity yet would not be considered for regular appointments, no matter how learned or useful we could be. Wartime incurred disabilities come under the same heading.

They need a change of policy with permanent rather than temporary appointments, less rigid physical standards, better recognition of service incurred disability, etc., to begin to look attractive.

The draft of physicians is rather inevitable to meet the needs and first call should be given to the recent graduates, those previously essential and deferred for training, etc., then those with least active service, and last those with longer periods of service.

K. N. BYRNE, LT. COL. RES.

A Plea For a Shorter Road to Medicine.

TO THE EDITOR:

Under organized medicine, dentistry and pharmacy, the pendulum has swung too far, and unless guided back by the same organizations will swing entirely too far in the other direction.

My class in 1905-1909 had four years in medicine. Dentistry was three years and pharmacy two. This was not extreme and no particular pre-med requirements were enforced. Our average was not nearly so good as a high school graduate of today, but our vocabulary was widened studying Osler, just as fast as it would have been studying Shakespeare. Some very fine students were not so very far above the free school courses but some Latin was considered essential. Dr. Moore taught Latin grammar to a few and for only a short while.

Many visiting physicians had had only two and three years in medicine.

Two years afterwards, organized dentistry went off on a tangent and got a law passed requiring dental matriculates to have the M.D. degree! Two or three lads actually matriculated for the combined course but the law was repealed two years later.

Now a pretty big clamor is going up for medical and dental relief and many are the panaceas offered. One state actually proposes a loan to choice students of $10,000, but why give this for an education that is superfluous with foreign languages, algebra, ancient history and unrelated sciences? Why burden a bright mind with the long course and burden the student with a $10,000 debt? If he doesn't snap under such a strain, then he is "unsnappable".

Why not make the course shorter? Eliminate the two and three years of pre-med entirely. Give the four year course but allow students to major in certain things as they go along. One might major in about the ten major specialties of today. Then he would step from school prepared to do internship in the specialty he had majored in. This is not intended to cut out general practice but major in that too, for a good percentage would be proper.

My little knowledge of late history has shown all too plain how one extreme follows another. We have surely gone to the extreme in our medical and dental education. I trust that we do not swing to the other extreme but this will happen unless we ourselves work for a reform for a shorter instead of a longer course.

Also while on the subject, our Spanish speaking students should be sent to the many good schools in South America—say Rio, Habana, Buenos Aires, etc. What a burden it was on a classmate of mine

to learn medicine in a language he could hardly speak.

Although the most comprehensive course is given in our medical schools, nothing is taught about finding a suitable location. Every young graduate should have his location selected for him by the Dean and others (say welfare committee) for a period of three years.

It is, of course, anticipated that the interest of the graduate and interest of the state would be carefully studied. At the end of the three years perhaps the graduate would be a permanent fixture at the location selected for him, which should be a rural community or at least away from crowded cities.

A. B. GRUBB, M.D.

July 13, 1948
Cripple Creek, Virginia.

MISCELLANEOUS

The Responsibility of the Practicing Physician For Diabetes Detection

The discovery and treatment of diabetes mellitus at an early stage demands the attention of all practicing physicians. Failure to discover and treat diabetes early results in preventable disabilities and impairments of health. In the Diabetes Exhibit at the Annual Meeting of the American Medical Association held in Chicago in June, 1948, it was shown that the mortality rate for diabetics first seen when a complication had occurred was three times the rate for diabetics first seen earlier and before impairments had developed. Actually the future for the diabetic patient under modern medical treatment is brighter and more hopeful today than ever before.

In 1929, Dr. George H. Gigelow and Dr. Herbert Lombard began a study of chronic disease in Massachusetts which led to the publication of statistics showing that the number of diabetic patients in Massachusetts was far higher than had been heretofore thought. In 1935, a National Health Survey was conducted which confirmed these figures. In Oxford, Massachusetts results of a survey by the United States Public Health Service indicates that at least a million undiagnosed diabetics exist in the United States and Canada.

District and state medical societies now have the opportunity to take the lead in the fight against diabetes in response to an appeal to the practicing physicians of the United States, presently being made by the Committee on Diabetes Detection of the American Diabetes Association. This committee was appointed by Dr. Charles H. Best, President, at the Annual Meeting in June, 1948. Plans are being formulated for National Diabetes Week, December 6 to 12, 1948.

As a first step in a full-scale attack on diabetes, eighth among the leading causes of death, a medical society should appoint its committee on diabetes. The National Committee on Diabetes Detection stands ready to assist local committees in their work. Already the Committee is preparing material containing information on diabetes for use by the physician in his own town. These materials include programs for medical meetings, radio broadcasts and spot radio announcements for use by city and county medical societies, and suggestions for cooperation with local hospitals toward the control of diabetes.

The Committees on Post-Graduate Instruction in state and county societies should plan instructions and demonstrations in diabetes in county meetings this fall. Also, hospital staff meetings should provide a place on their program for diabetes. Committees on Public Relations and Public Information should plan meetings for instruction of laymen including patients, their families, and all others interested.

Women, too, have an important role to play in the fight to control diabetes. It is significant that diabetes is more frequent among women than among men. It is desirable to enlist the aid of women's organizations, especially the women's auxiliaries of the medical societies, as an adjunct to the program planned by medical societies.

Already a number of local diabetes associations affiliated with the American Diabetes Association have been formed. More such associations composed of physicians are needed. With the cooperation of the physicians within their area, these associations have accepted the challenge and will strive to find and treat the million hidden diabetics. Associations will be assisted by the American Diabetes Association in attaining such objectives as: More graduate courses in diabetes for physicians;

providing better laboratory services; and helping with instructions for patients. Now is the time for action—will the practicing physicians seize this opportunity for progress in an all-important field or will he prefer to surrender to others his responsibility for diabetes detection and treatment?

COMMITTEE ON DIABETES DETECTION
HOWARD F. ROOT, *Chairman*
81 Bay State Road
Boston, Massachusetts

Warning.

The Federal Security Agency's Food and Drug Administration warns physicians and dentists that certain codes of procaine hydrochloride solution manufactured by C. B. Kendall Company, Indianapolis, Indiana, caused severe necrotic damage upon injection. The facts came to light only recently when the American Medical Association informed the Food and Drug Administration that a physician reported injuries from a batch of the solution coded 24830.

This code was placed in distribution in February 1948. C. B. Kendall Company determined, following reports of untoward reactions, that the solution is highly acid, possessing a pH of about 1. The company attempted to recall the lot by a letter dated June 3, addressed to each purchaser of the vials, which directed their return, and by recall efforts of its own salesmen. This recall program has not been completely effective.

The Food and Drug Administration has just learned that another batch of the firm's procaine hydrochloride solution, coded 64712, has caused several alleged necrotic reactions. The pH of a vial of this lot was found to be 2.9.

Pharmacological work being performed by the Administration indicates that these two products are dangerous and should not be used. They have been distributed in the area from Florida to Wisconsin and from West Virginia to Texas.

The C. B. Kendall Company has distributed several other lots of injection drugs which possess a pH of 3.0 or less. Of these the firm has voluntarily recalled the following products on which complaints have been received:

Vitamin B Complex Stronger—Lot No. 54843

Vitamin B Complex—Lot No. 44832

Pentabexin—Lot Nos. 44823 and 54837

Thiadoxin—Lot Nos. 34808, 44817, and 64842.

Also, the following injection products of C. B. Kendall Company have shown low pH values as indicated:

Product	*Lot Number*	*pH*
Vitamin B Complex Stronger	64844	2.9
Vitamin B Complex	54811	2.8
Thiamine Hydrochloride	34817	2.6
Thiamine Hydrochloride	74806	2.9
Pyridoxine Hydrochloride	74725	2.7
Pentabexin	64812	3.0
Procaine Hydrochloride	74871	3.0

The above facts which have been obtained to date require the issuance of this notice to physicians even though the investigation has not been completed.

The Council on Pharmacy and Chemistry of the American Medical Association is assisting in the distribution of this notice through its facilities for communicating to hospitals and physicians.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for September 1948, as compared with the same month in 1947, and for the period of January through September 1948 compared with the same period in 1947, is as follows:

	Sept. 1948	Sept. 1947	Jan.-Sept. 1948	Jan.-Sept. 1947
Typhoid and Paratyphoid	16	27	110	97
Diarrhea and Dysentery	548	641	3,318	4,266
Measles	67	83	6,130	7,522
Scarlet Fever	28	42	639	936
Diphtheria	17	11	160	167
Poliomyelitis	157	55	420	114
Meningitis	6	2	70	83
Undulant Fever	9	11	69	61
Rocky Mountain Spotted Fever	2	8	59	62
Tularemia	4	7	45	46

USE OF GENERAL HOSPITALS FOR COMMUNICABLE DISEASES

It is nearly a year (December 10, 1947) since the State Board of Health adopted the revised recommendations of the American Public Health Association as the official rules and regulations for control of communicable diseases in Virginia. Since the requirements regarding quarantine and the rigidity of isolation changed the prevailing customs of previous years, it is understandable that acceptance of the new concept has been qualified on the part of some physicians and many laymen. This has doubtless been the cause of the objections of certain lay and medical men of general hospital staffs toward accepting communicable diseases in their institutions.

Part of this apprehension regarding the danger of the spread of communicable diseases is removed by an analysis of present knowledge. It is accepted that in most communicable diseases the period of greatest communicability is in the stage before diagnostic signs appear. Even while accepting this fact we still take the precaution of requiring isolation of sick individuals during the active course of their illness.

It is obvious that quarantine of contacts does not limit the spread of communicable disease. If we really believed in the efficiency of the quarantine of all contacts we would quarantine the physician and not permit him to pass from a patient with communicable disease to others. No one advocates such a course. We do expect intelligent, communicable disease minded physicians to observe adequate precautions.

The present attitude toward the handling of communicable diseases is a far cry from the inhuman one of Bible times when the patient with leprosy was compelled to live in desert caves, cry "Unclean" to passers by and be stoned if he ventured to break his isolation.

The following principles regarding the use of general hospitals in the care of communicable diseases are generally accepted:

1. Hospitalization in contagious disease hospitals has not proved an effective method of preventing spread of communicable disease.
2. Cross infection in well supervised hospitals has been reduced to a minimum.
3. The use of sulfonamides, penicillin and streptomycin have resulted in decreased secondary attack rates and infectivity periods.
4. The chief benefit to the patient is the better care he receives in well conducted general hospitals through availability of qualified consultants in fields of medicine and surgery.
5. Experience in the care of communicable diseases is valuable continuous training for physicians and nurses in general hospitals.
6. Contagious disease wards of general hospitals should be properly constructed and in charge of physicians and nurses familiar with proper techniques of isolation and care of patients with communicable diseases.
7. Especially in smaller communities, there is great need for better hospital care for communicable disease cases. This care should be provided through provision of isolation facilities in general hospitals.

It is not contended that all communicable diseases should be hospitalized. Because of more adequate facilities for treatment of the disease, and possible complications, typhoid fever, meningitis, poliomyelitis, pneumonia and tuberculosis do better in hospitals. On the contrary, influenza, measles and whooping cough often may be better cared for in the home unless complications arise.

MEDICAL SOCIETY OF VIRGINIA PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

A number of State Medical Societies are now publishing News Letters in an effort to keep their members up-to-date on current developments in the socio-economic, and other aspects of medicine. The following are quotes from two of these publications.

A Trojan Horse

The antivivisectionists have used practically every dodge known to the deceiver. The newest is a Trojan horse known as the National Pet Protection Patrol. This is a "nation-wide organization to help boys and girls learn how to care for their own pets and to protect dogs, cats and other animals from all forms of cruelty", according to the Chicago Herald American. This organization is opened at no cost to all children six years of age or over. A chapter organized in September 1947 is said to have acquired 3,800 members in the public schools of Los Angeles in less than one year.

The organization offers the usual bait to children by giving them free an engraved badge and an official membership card, thus creating a nationwide organization of youthful Don Winslows on the prowl against cruelty to animals.

On the surface no sane person with any tenderness in his heart for animals could object to this beautiful and idealistic purpose. Only the cynic who looks beneath the surface would find the occupants of this Trojan horse and recognize them for what they are. James H. Cruikshank, Geo. R. Farnum, Mrs. Eliot Tuckerman, Ernest Weidhaas, and Verna Hayward of Los Angeles, are all prominent in antivivisection movements. This is an insidious example of penetration into public schools by special pleaders. The success of this movement could mean the indoctrination of millions of school children with ideas contrary to the principles of scientific research, particularly in the fields of biology and medicine. Unless school officials are warned, they might see little reason to question the desirability of education stressing kindness to animals. Physicians and medical societies everywhere should call this menace to the attention of the schools. (Council News Letter of the Council on Medical Service and Public Relations, Louisiana State Medical Society, September 20, 1948.)

Three Minute Club

The latest wrinkle in medical public relations comes from Colorado. A "Three Minute Club" has been organized, each physician agreeing to spend three extra minutes with his patients after completing his professional services. *Philadelphia Medicine,* publication of the Philadelphia County Medical Society, endorses the idea, saying: "Patients not only come to us for treatment and advice, but also for words of reassurance concerning their eventual recovery. We cannot show a personal interest in a patient by appearing hurried or anxious to see the next patient. How about starting immediately to give your patients a little more of your time? You will be surprised how much it will mean in your relations with them." (Membership News Letter, the Medical Society of New Jersey, October 1948).

The following excerpts are from *American Medicine* and the *Political Scene,* September 10, 1948, published by Dr. Marjorie Shearon:

President Releases Report on Health Put Out by Ewing, One of His Campaign Managers

When plans for the National Health Assembly were announced last spring by Oscar Ewing, many persons were skeptical about his objectives. The skepticism which we had from the time the NHA, Inc. was announced and which we voiced throughout the meetings of the Assembly in May has been entirely substantiated by the recommendations in the report.

Here is a campaign document printed at the taxpayers' expense. It is entitled: "THE NATION'S HEALTH A TEN YEAR PROGRAM", being a report to the President by Oscar R. Ewing, Federal Security Administrator; copies of the 186-page document may be obtained from the Government Printing Office for $1.

To begin with, it is ludicrous for an out-and-out politician like Ewing to publish a report on the Nation's health. Such a report should emanate from the Surgeon General of the USPHS. Here is a document politically conceived, politically engineered, and politically timed. Can one doubt it is intended to help put Ewing on the map and to pub-

licize the President's legislative program? Ewing has endeavored to make himself and his top administrative assistants spokesmen in the highly technical fields of health and medicine. Does a report on health require tinkering by professionally unqualified persons?

Onward Towards State Socialism Under the Truman-Ewing Plan!

The essence of the Truman-Ewing health program is, as we predicted it would be, creation of a national compulsory medical care insurance system. This would be augmented by a greatly expanded program of medical education and research, hospital construction, hospital maintenance, and community health protection. Financially, it would mean doubling of present governmental expenditures—Federal, State, and local—for civilian health by 1960 and an annual outlay of upwards of $10 billion for compulsory social security medicine for the entire population. Regardless of the method by which the public funds are to be raised for the program, the fact remains that the cost to the taxpayer would be $15 billion a year or more. Part of this would come from increased social security taxes, but most of it would come from general revenues which would be obtained by increasing income taxes at Federal and State Levels and by taxing anything that would bear a tax at local levels.

Ultimate Abolition of Non-Profit and Commercial Insurance Advocated by Ewing

A number of radical changes are implicit in the Truman-Ewing proposals. Voluntary insurance is to be wiped out eventually. Says Ewing: "The people who need health insurance most will not be able to get it under voluntary plans. I am forced to the conclusion that the voluntary insurance plans can never do the job that the national interest requires to be done."

BOOK ANNOUNCEMENTS

Occupational Therapy Source Book. Edited by Sidney Licht, M.D. With an introduction by C. Charles Burlingame, M.D. Baltimore, The William & Wilkins Company. 1948. vii-90 pages. Cloth. Price $1.00.

Handbook of Orthopaedic Surgery. By ALFRED RIVES SHANDS, JR., B.A., M.D., Medical Director of the Alfred I. DuPont Institute of the Nemours Foundation, Wilmington, Delaware; etc. In Collaboration with Richard Beverly Raney, B.A., M.D., Associate in Orthopaedic Surgery, Duke University School of Medicine, Durham, North Carolina; etc. Illustrated by Jack Bonacker Wilson. Third Edition. St. Louis, The C. V. Mosby Company. 1948. xviii-574 pages. Cloth. Price $6.00.

Correlative Neuroanatomy. By JOSEPH J. McDONALD, M.S., M.Sc.D., M.D.; JOSEPH G. CHUSID, A.B., M.D.; and JACK LANGE, M.S. M.D. Fourth Edition, Revised. 60 Illustrations. University Medical Publishers, Palo Alto, California. 1947. 156 pages. Illustrated. Paper. Price $3.00.

The authors have taken a subject, usually thought to be a difficult one, and written a concise outline that is all inclusive. The title, "Correlative Neuroanatomy", might better be "Correlative Neurology", as it not only includes neuroanatomy, but also some physiology and pathology.

There are three well illustrated sections to this book. The first one takes up the peripheral nerves, including the autonomics. Each main nerve is listed with its anatomy, central connections, symptoms, syndromes and tests. Section two deals with the principles of neurodiagnosis, which includes motion with its gaits, deformities and postures; sensation, reflexes, muscular dystrophies and atrophies, and trophic changes associated with lesions of the nervous system. Section three confines itself to the central nervous system and its diseases, cerebrospinal fluid, and intracranial pneumography. The last ten pages take up neurological signs and syndromes, the principles of a neurological examination; and two figures illustrating the general areas of referred pain in visceral disease.

Essentially this book is not a textbook, but is an excellent up-to-date quick reference for those who have had some neurology.

LOUISE L. JONES

Psychobiology and Psychiatry. A Textbook of Normal and Abnormal Human Behavior. By WENDELL MUNCIE, M.D., Practicing Psychiatrist; Chairman, Medical Advisory Board, Seton Institute, Baltimore, Md.; Associate Professor of Psychiatry, Johns Hopkins University; etc. Second Edition. St. Louis. The C. V. Mosby Company. 1948. 620 pages. With 70 Illustrations. Cloth. Price $9.00.

Several significant changes have been made in this edition as compared with the first edition, which was published in 1939. For example, the historical appendices which contributed a great

deal to the bulk of the first edition, have been deleted. There has been apparently no change in Part I of the book, which discusses the fundamental conceptions of psychobiology and contains the outline of the student's personality study. This section emphasizes the conscious functioning of the individual and dismisses the contributions of the psychoanalysts with very brief comment.

The remainder of the book is devoted to a very detailed description of examination methods and description of the various psychiatric reaction types and their treatment. There are numerous and excellent case histories included as illustrations. Unfortunately, the Meyerian terminology has been retained and it is the opinion of the reviewer that this can serve but to confuse the student who is accustomed to the standard nomenclature.

Part III of the book is the most valuable. It is composed of a discussion of the treatment of the various reaction types, going into great detail about the management of patients with these various disturbances.

It is felt that this text is of definite value as a reference book but it is perhaps too lengthy for use as a standard text for undergraduate students.

P. H. D.

Medical Writing. The Technic and the Art. By MORRIS FISHBEIN, M.D., Editor, **The Journal of the American Medical Association.** With the assistance of Jewel F. Whelan, Assistant to the Editor. Second Edition. Philadelphia, The Blakiston Company, 1948. 36 Illustrations. 292 Pages. Price $4.00.

Each year two to three thousand manuscripts are submitted to the *Journal of the American Medical Association.* Consequently Dr. Fishbein, the editor, writes as an expert when he tells the would-be medical author how to write a medical paper and why he returns 75 per cent of the manuscripts. Every one who writes for medical journals should read this little book. The chapter on Solecisms alone is worth its price. He explains why it is foolish to say a patient has a temperature when one means that the patient has a fever. "To operate a patient" is a mistake that only American Surgeons make. The careless use of *pathology, biopsy,* and *cystoscope* is deplored. No astronomer telescopes the sky. One removes tissue for a biopsy. Pathology is the science of the origin, nature and course of diseases. One frequently hears that the patient's *serology* is negative. The word human is an adjective and therefore has no plural form. It should never be used as a noun except colloquially or in a humorous sense. There are chapters on capitalization, abbreviations, numbers, preparation of manuscripts, illustrations, tables and charts, revision of the manuscript, proofreading, indexing and abbreviations of names of periodicals. The chapter on revision of the manuscript is especially interesting. Sir Clifford Allbutt customarily made four drafts before the manuscript was considered ready for the printer. In this process the resulting paper was reduced 20 to 25 per cent. Sir William Osler made notes on any kind of paper that was handy, when he was gathering material. These he assembled in a long hand draft. The next stage was a typewritten copy with interlineations, transpositions and deletions. Then there was a second typewritten copy which was again greatly modified. Finally there was a third typewritten copy which was sent to the printer. Even this showed minor corrections.

Anatole France held that seven revisions were necessary and an eighth was desirable. If these masters of style found it necessary to take so much pains, the casual writer should be equally painstaking.

M. P. R.

Your Baby. The Complete Baby Book for Mothers and Fathers. By GLADYS DENNY SCHULTZ, Contributing Editor, Ladies' Home Journal and LEE FORREST HILL, M.D., Former President, American Academy of Pediatrics. Photography by Joseph Di Pietro; Line drawings by Reisie Lonette. Doubleday and Company, Garden City, New York. 1948. viii-278 pages. Cloth. Price $3.50.

"This is the *first* book to recognize that babies have two parents—and that Father, too, needs some instruction. Thoroughly readable, complete and easy to understand, 'Your Baby' covers everything from the time pregnancy is first suspected, through birth, infancy, and up to the time the child reaches school age.

"A special feature of the book is the picture section, in which important instructions are illustrated by photographs and drawings. And there's a record section which, when filled in, will make this book a treasured personal history of the baby's early years."

EDITORIAL

Our New President

THE annual session of the Medical Society of Virginia in Richmond witnessed the installation of Dr. M. Pierce Rucker as President. In selecting Dr. Rucker, the Society has chosen one of the most distinguished physicians of this section and one of its most loyal and useful members.

Dr. Rucker was born January 6, 1881, at Pohick, Fairfax County, Virginia, where his father, Dr. Edwin T. Rucker was in practice. After attending Randolph Macon College, where he received the degree of A.M. in 1899, he studied medicine for one year at the Medical College of Virginia, transferring to Johns Hopkins Medical School from which he was graduated in 1903. Engaging in general practice with his

MARVIN PIERCE RUCKER, M.D.,
President, Medical Society of Virginia

father, then in Richmond, he soon developed special interest in Obstetrics and Gynecology, and since 1915 has confined himself exclusively to that specialty. His teaching began in 1903 at the Medical College of Virginia as demonstrator in Histology and Embryology. Later, he became Associate Professor of Obstetrics, a position he held until his resignation in 1930. In 1940 he served as lecturer on the History of Obstetrics at Duke University. He has been a diplomate of the American Board of Obstetrics since 1930 and for many years has been head of the Department of Obstetrics of the Johnston Willis Hospital.

While conducting a large and exacting practice, Dr. Rucker has taken an active part in the affairs of various professional organizations. He was President of the

American Association of Obstetricians, Gynecologists and Abdominal Surgeons in 1934, and of the South Atlantic Association of Obstetricians and Gynecologists in 1940. He is a member of the American Gynecology Society and an honorary fellow of the Washington Gynecology Society. In 1937 he was president of the Richmond Academy of Medicine. He has also served as Chairman of the Section of Obstetrics and Gynecology of the American Medical Association and of the Section on Obstetrics of the Southern Medical Association.

In December, 1942, Dr. Rucker succeeded Dr. Wyndham Blanton as Editor of the VIRGINIA MEDICAL MONTHLY and the character of that publication testifies to the quality and effectiveness of his work. Floral Eponyms, Dr. Rucker's original and unique contributions, in which physicians for whom flowers have been named are briefly discussed, have attracted nation-wide attention. In addition to his duties as editor, he has rendered valuable service in establishing the society sponsored plans for pre-paid hospital and medical care in the state.

Dr. Rucker has also assumed responsibilities and attained honors outside of medicine. He has served as Chairman of the Board of Stewards of Centenary Methodist Church and is a Trustee of Randolph Macon College. He is an honorary member of Phi Beta Kappa and was President of the Richmond Alumni Chapter of Phi Beta Kappa in 1943. In 1938 Randolph Macon College awarded him the honorary degree of LL.D.

As practitioner, teacher and writer, Dr. Rucker exemplifies the scholarly physician. Yet his has not been the cloistered life, for through his activities in various organizations he has kept in constant touch with the trends and problems that concern the medical profession. This experience, together with a capacity for sound judgment and clear expression, fits him in unusual degree for the duties and responsibilities of the high office to which he has been chosen.

J. M. H.

Civilian Vocational Rehabilitation

IN this year of our Lord, 1948, to mention a cripple calls to mind a veteran. Yet civilian life has as many and as serious casualties: amputees, paralytics, the deaf, the blind, cardiacs, etc. Every phase of life adds its quota. Our ancestors contribute poor genes. Parturition has its victims of anoxia and trauma, although fortunately these are becoming less common. Accidents on the playground, on the farm, in the factory, as well as those of the automobile contribute consistently. Others are due to diseases: osteomyelitis, diseases of the central nervous system, lungs and heart. Altogether, there are in Virginia, it is estimated, some twenty to twenty-five thousand persons with physical impairments so severe as to interfere with their making a living.

The State Board of Education has undertaken something that no other state is doing. At the end of the war the 1900 bed Woodrow Wilson General Hospital was a white elephant. It was badly situated for civilian hospital needs. The Veterans Administration wanted its hospitals near teaching centers. The Federal Government finally deeded a portion of it to the State Board of Education to be used as a vocational rehabilitation center and a portion of it to the Augusta County School Board for a high school and a regional vocational school. This high school now has an enrollment of about 1,000 and the vocational school has an enrollment of about 200. Here are dormitories, conference rooms, and facilities for all sorts of hydrotherapy and physiotherapy, craft shops of all kinds— radio, watch making, wood work, shoe repairing, repair weaving, zipper repairing, print shop, book binding, and a department of cosmetology. Colonel W. Kuhn Barnett is in charge and has gathered to-

gether a competent staff of forty. We asked Colonel Barnett what he called his clients —inmates, boarders, pupils, or patients and he said they preferred to call them scholars. Although we saw no books we were willing to accept Colonel Barnett's nomenclature. He is starting a new kind of institute and it is right that he should have the privilege of making a new terminology. At present there are over 80 scholars. They appear happy and busy about some useful task. We met one quadriplegic, the victim of an automobile accident. She is regaining the use of her shoulder muscles and is as happy as can be.

The average duration of training is approximately six months. The scholars come from all over the state and are selected by nineteen district supervisors of vocational rehabilitation who interview the applicants in their homes and send in a detailed report as to the physical and mental condition of the applicant and his background. Usually he must be able to take care of his physical needs. We noticed over some of the bath tubs there were "Jacob's ladders". Colonel Barnett told us that many of the scholars had never used a bath tub before coming to him. The scholars and the staff are living together like a big happy tribal family except that a tribe does not have a bath tub for every two persons.

The Institution has buildings and equipment for almost unlimited expansion. We imagine that getting personnel is the greatest check to rapid growth. Gathering a large staff must be a slow process. Although the need is great, we hope it will not expand so rapidly as to endanger its present *esprit de corps*. To walk over the place with Colonel Barnett is a great privilege and a revelation.

New Lows in Maternal and Infant Mortality

THE figures recently released by the State Health Department for 1947 show new low rates for both maternal and infant mortality. There were 1.7 maternal deaths per 1000 live births and an infant death rate of 37. This is an excellent illustration of what cooperation can do. The Medical Society of Virginia has long had an active Committee on Maternal Health. It is composed of representative obstetricians and general practitioners from various parts of the state. In addition, Dr. A. L. Carson and Dr. L. L. Shamburger from the State Health Department are members of the Committee. One of the objects of the Committee was to see that adequate prenatal care was available to every prospective mother. At present there are 99 maternal clinics. Two hundred and fifty-six local physicians serve the prenatal and well baby clinics. In the year July 1, 1946 to June 30, 1947, 7,291 prenatal patients were admitted to the clinics and 9,722 well baby patients. The prenatal patients paid 31,618 visits and the well babies 29,167. Even now there are a few counties without this health service. The establishment of these clinics created increased interest in obstetrics both by the laity and the profession. The next step was a review of each maternal death by the Committee. The data were gathered by Dr. Carson or by Dr. Shamburger. Names and localities were omitted so that the other members of the Committee did not know whose cases were being reported. The cases were classified as preventable or non-preventable and if preventable, whether error of technic or judgment was that of the attendant or of the patient and if there were any lack of facilities. During World War II the review of the maternal deaths was discontinued for lack of personnel. It has now been resumed in a modified form. The information is obtained by questionnaires. So well did Drs. Carson and Shamburger lay the foundation with their personal visits that the response to the questionnaires has been very gratifying.

The third factor in the lowering of maternal mortality was the providing of hospital care for indigent mothers and babies when such care seemed to be indicated. This was a natural result of the establishment of prenatal clinics and in the increased interest in obstetrics, and yet so far as we know no other State has such a program. In the year July 1, 1946-June 30, 1947, 920 obstetrical patients and 446 pediatric patients were hospitalized under this plan.

In round numbers one-half of the infants who die in the first year die in the first month. One half of those who die in the first month, die in the first week and one half of those who die in the first week die in the first 24 hours. Prematurity ranks eighth in all the causes of death. Improvement in obstetric care should reflect in infant mortality and such is undoubtedly the case. In addition the pediatricians are interested. They are approaching the problem somewhat differently from the obstetricians. They have just completed a state-wide survey of pediatric facilities under the auspices of the American Academy of Pediatrics.

A New Approach to the Pelvic Cancer Problem

THE treatment of cervix cancer whether by radiation or by surgery has reached a plateau. A 35 per cent five year cure rate is about as much as one can expect under present conditions. A similar state of affairs in regard to maternal mortality existed a number of years ago. Committees were established in New York and Philadelphia whose function was to study each maternal death and discuss the pertinent facts with the doctors concerned. This proved to be salutary and the example of New York and Philadelphia was followed in other parts of the country. This proved to be a very important factor in the tremendous reduction in maternal mortality that has taken place all over the country.

The Philadelphia County Medical Society has appointed a similar Committee for the study of pelvic cancer. It has been in operation for several years. At its meetings pelvic cancer cases are discussed in a manner similar to the discussion of maternal deaths by the Maternal Welfare Committees. The findings of this Committee are that in a great majority of the cervix cancer cases, over 80 per cent, there has been an inexcusable delay in seeking a diagnosis both on the part of the patient and by the physician. There is an aversion on the part of the patient to a vaginal examination and an even greater aversion on the part of the general practitioner. One member of the Committee explains the attitude of the doctor by describing what takes place in the medical school and hospital. We teach the medical students the importance of pelvic examination in diagnosis. They are impressed with this fact in their gynecological training. When they become "residents in internal medicine," what happens? They make a physical examination down to the pelvis. A consultation slip is sent to the gynecologist to see the patient and make the examination. That normally means that men leave the hospital with the feeling that a pelvic examination is not quite the part of a general physical examination. The Committee cites the case of a 70 year old widow who in the period of one year was treated by four different physicians for an intractable backache. None made a pelvic examination. When after a year's treatment a vaginal examination was made, a grade III cancer of the cervix was found.

It is too soon to know if this new approach to the cervix cancer problem will yield practical results, but the history of the Maternal Welfare Committees' investigation leads us to hope that it will.

SOCIETIES

Southwestern Virginia Medical Society.

The meeting of this Society at Maple Shade Inn, Pulaski, on October 7th, was well attended, there being 60 at the afternoon session, and 82 in addition to guests at the banquet that evening. Dr. Douglas D. Vance of Bristol presided. The afternoon program by members was as follows:

"Anesthesia and its Relationship to Surgery"
DR. A. D. HUTTON, Marion

"Primary Splenic Panhematocytopenia—with Presentation of Case"
DR. JAMES MARTIN, Pulaski

"Treatment of Common Type Fractures About the Joints"
DR. PHILLIP TROUT, Roanoke

"Rickettsial Disease Problems in Southwest Virginia"
DR. VERNON A. TURNER, Abingdon

This was followed by a business session and a social hour before the banquet. The evening session was given over to the guests who presented the following papers:

"Acute Head Injuries—Treatment and Management."
DR. EDGAR WEAVER
University of Virginia
Charlottesville

"Relation of Chronic Cystic Mastitis to Carcinoma of the Breast"
DR. HARRY A. OBERHELMAN, Loyola University and Attending Surgeon
Cook County Hospital, Chicago

REMARKS
DR. D. D. VANCE, Out-going President
Bristol, Virginia-Tennessee

At the business session, the following officers were elected for the coming year: President, Dr. R. M. DeHart, Radford; vice-president, Dr. George C. Williams, Pearisburg; and Dr. Andrew F. Giesen of Radford was re-elected secretary-treasurer. Dr. Cecil Hickham of Pulaski was elected to the Executive Committee for a term of three years, and the following were named for the Public Relations Committee, with Dr. Andrew Giesen as general chairman: Dr. W. A. Porter for Carroll County; Dr. S. A. Tuck for Giles; Dr. James P. King for Montgomery; Dr. Cecil Hickham for Pulaski; Dr. E. V. Richardson for Smyth; Dr. Charles Harkrader for Washington; Dr. Julian Manges for Wythe; Dr. V. J. Cox for Grayson; and Dr. George Kegley for Bland.

The next meeting will be held in the Spring.

Halifax County Medical Society.

At the meeting of this society on September 22, Dr. William C. Brann of South Boston, who had served for a number of years as secretary-treasurer, was elected as president for the coming year. Those to serve with him are Dr. C. B. White of Halifax as vice-president and Dr. Nat H. Wooding of Halifax as secretary-treasurer.

Roanoke Academy of Medicine.

At the regular meeting of the Academy on October 4th, the following officers were installed: President, Dr. Charles H. Peterson; vice-presidents, Drs. Frank J. Helvestine and John E. Gardner; and secretary-treasurer, Dr. T. J. Humphries. Members of the Executive Committee are Drs. Charles A. Young, Sr., Charles M. Irvin, C. D. Nofsinger, E. G. Gill, and H. H. Trout, Jr.

The Lynchburg Academy of Medicine

Met on October 4th with Dr. E. S. Groseclose, vice-president, presiding. Dr. Byrd Leavell, assistant professor of medicine of the University of Virginia Medical School, presented an interesting and informative paper, well illustrated with lantern slides, on "Some Problems Associated with Splenomegaly".

Williamsburg-James City Medical Society.

Present officers of this society are: President, Dr. Frank A. Dick; vice-president, Dr. J. E. Barrett; and secretary-treasurer, Dr. E. Beamer Maxwell.

Richmond Academy of General Practitioners.

The Richmond (Va.) branch of the American Academy of General Practitioners has elected the following officers: President, Dr. E. E. Haddock; vice-president, Dr. Carl Lingamfelter; treasurer, Dr. Reuben F. Simms; secretary, Dr. William R. Morton. The Board of Directors includes Dr. H. W. Decker, Dr. Gordon D. Hall, Dr. R. G. McAllister, and Dr. Fleming Gill. There are 136 eligible doctors in the Richmond area and it is

the aim of the association to enroll as many of these as possible.

At its meeting in September, the Academy went on record as opposing a site too near the Medical College of Virginia Hospital for the new hospital to be established in Richmond, suggesting that it be located in the west end of the city. This recommendation is to be passed on to the local society.

The Neuropsychiatric Society of Virginia

Met for its regular Fall session at the Veterans' Administration Hospital, Roanoke, on October 6. Speakers were Dr. Richard S. Lyman, Duke University, Durham, N. C., Dr. Edward P. Greenwood, The Southard School, Topeka, Kansas, and Dr. Harvey J. Tompkins, Veterans' Administration, Washington, D. C. The staff of the hospital were hosts at a barbecue supper following the meeting. Officers of the Society for the current year are Dr. Claude L. Neale, Richmond, president; Dr. James B. Pettis, Staunton, vice-president; and Dr. James K. Morrow, Radford, secretary-treasurer.

The Virginia Peninsula Academy of Medicine

Held its first fall meeting on September 20th in Newport News, under the presidency of Dr. George G. Hankins. Sixty-seven physicians were present, including visiting obstetricians from Norfolk and Richmond. Dr. Charles O. McCormick, Professor of Obstetrics, University of Indiana, was guest speaker, his subject being Rectal Analgesia in Obstetrics. Dr. William A. Read of Newport News is secretary.

NEWS

Second Annual Interim Session.

Attention of the medical profession will be focused on procedures and problems of the family doctor, or general practitioner, at the second annual Interim Session of the American Medical Association in St. Louis, November 30 to December 3, 1948.

On the eve of the Interim Session, Saturday, November 27, the first national Medical Public Relations Conference will be held under sponsorship of the A. M. A. at the Statler Hotel in St. Louis.

Lecture meetings and a wide variety of clinical conferences on conditions most often seen in daily practice will be conducted at the Interim Session by medical leaders from all sections of the nation.

Subjects to be discussed include diabetes, heart disease, cancer, poliomyelitis, obstetrics, pediatrics, dermatology, genito-urinary conditions, hypertension, anesthesia, tuberculosis, jaundice, laboratory diagnosis, x-ray diagnosis, and physical medicine as applied to the treatment of arthritis.

Diagnosis and treatment will be stressed in the clinical conferences, which will be correlated with the lecture meetings.

Evening programs will feature distinguished speakers and the award of the general practitioner medal.

A scientific exhibit with nearly 100 displays will show clinical and pathological material, and approximately 115 leading manufacturers will display technical exhibits of new medical products, equipment, and publications. All exhibits will be open from Tuesday at 8:30 a.m. to Friday noon, November 30 to December 3.

Papers will be read at the General Scientific Meetings in the St. Louis Opera House from 9 to 10 a.m. and from 2 to 3 p.m. each day.

Dr. Jordan to Retire.

Dr. H. E. Jordan will retire February 1 as dean of the Department of Medicine of the University of Virginia, a position he has held for a number of years. He will be succeeded by Dr. Vernon Lippard, dean of the Louisiana State University School of Medicine. Dr. Lippard is a graduate of the Yale School of Medicine in 1929 and, before going to Louisiana, he was associate dean of the College of Physicians and Surgeons of Columbia University in New York City.

Medical College of Virginia News.

Dr. Everett I. Evans, Professor of Surgery and Director of the Surgical Research Laboratory, was recently awarded a certificate of appreciation for his research on surgical shock during World War II. The award was made jointly by the Navy and Army. Dr. Evans is the only Richmonder and the sixth Virginian to be so honored for scientific research during the war.

Dr. W. T. Sanger, President, has announced the formation of a committee to study methods whereby the college might aid in the supply of physicians in the rural areas and smaller communities in Virginia.

The committee was authorized by the Board of Visitors of the college with Dr. Sanger as chairman with two members to be named by him from the faculty of the college and two to be named by the president of the Alumni Association.

Dr. Sanger said he had appointed to the committee Dr. A. B. Gathright, Jr., and Dr. Charles M. Caravati. Dr. Robert J. Wilkinson, Alumni Association president, has named Dr. Ray A. Moore of Farmville and Dr. C. W. Haden of Evington, as representatives of the Alumni Association. The committee will endeavor to make specific recommendations as to how the number of physicians in rural areas may be increased and how physicians may be attracted to smaller communities where there is a shortage at the present time.

A total of 1,119 students of whom 417 are freshmen are enrolled in the 112th session which began in September.

The School of Medicine for the current session has an enrollment of 326 of whom 84 are freshmen. In the new class of medical students, there are 71 from Virginia, 5 from North Carolina, 3 from West Virginia, and 5 others from Puerto Rico, Kentucky, Florida, and Maryland.

The Schools of Dentistry and Pharmacy at the college have the largest enrollments in their history. There are 174 students in dentistry with 50 freshmen and 214 in pharmacy with 59 freshmen. Of the 310 women in the School of Nursing, 96 are freshmen. There are also 45 students enrolled in physical medicine at the college, nine dietetic interns, 14 studying medical technology, and 25 enrolled in X-ray technology.

Winchester Memorial Hospital Staff Conferences.

At the regular staff meeting on September 21st, Dr. Paul D. White, Boston, was invited guest, his subject being "Coronary Heart Disease and Angina Pectoris". There were about seventy-five physicians from Winchester and surrounding territory in attendance.

At the meeting on October 27th, there was a symposium on hypertension as follows: Etiology by Dr. John C. Hortenstine; Fundus Changes by Dr. William P. McGuire; Medical Treatment by Dr. E. W. Lacy, Jr.; and Surgical Treatment by Dr. M. D. Custer, Jr.

Dr. Charles Briel Keppler,

Formerly of Norfolk, is now associated with the Emerald-Hodgson Hospital, Sewanee, Tennessee, in the department of internal medicine. He is a graduate of the Medical College of Virginia, class of 1941.

Dr. James L. Chitwood

Announces his association with the Pulaski Hospital, Pulaski, in the practice of internal medicine. He is a graduate of the Medical College of Virginia in 1943 and has recently been with the Veterans Administration in Richmond.

The Thomas Clinic

Was opened on September 1st at 2031 Monument Avenue, Richmond. Drs. J. Warrick Thomas and Joseph M. Hester, the staff members, will limit their practice to allergy and internal medicine.

Dr. J. A. M. Thompson,

Recently of Stevensburg, is now with the Veterans Administration Hospital, Swannanoa Division, Oteen, North Carolina.

Dr. Roy B. Sampson, Jr.,

Recently of Roanoke, is now located at Purcellville.

Dr. W. H. (Joe) Springall,

Recently of Gloucester Court House, on September 1st became part owner of the Fredericksburg Hospital and Clinic at Fredericksburg, Texas, where he is now located. He is head of the obstetrical and medical departments of the clinic.

Married.

Dr. Samuel Walthall Budd, Jr., Richmond, and Miss Emilie Grace Mueller, Baltimore, Maryland, September 18.

The Country Doctor.

A number of states are trying to solve the rural-doctor shortage through scholarship loans to finance the medical education of local boys who will promise to spend a specified number of years in rural practice in these states, Steven M. Spencer says in an interesting article in the October 9 issue of the *Saturday Evening Post.*

Kentucky and Illinois have such funds and Indiana, Mississippi, North Carolina and Virginia have plans for them.

Mr. Spencer, associate editor of the *Post* who won the George Westinghouse Science Writing Award in 1947, describes the career of Dr. Chester U. Callan, of Rotan, Texas, who built his own hospital and maintains it with the help of two partners, Doctors Robert T. Wilkinson and J. Frank Johnson

"Not enough young men share Doctor Callan's taste for rural practice," Mr. Spencer says in explaining the shortage of country doctors. "To most of them the comfortable roominess and friendliness of the farm and small town can't match the dollar appeal and the alleged cultural advantages of the crowded cities. . . . As a result of this, many a village doc is growing old and tired, with no one coming down the pike to whom he can sell his practice."

The Callan hospital and others like it have proved that such institutions boost the level of rural health, according to the *Post* article.

Dr. George R. Minor,

Class of '40, University of Virginia School of Medicine, has been appointed an assistant professor of surgery at the University of Illinois College of Medicine. He has served on the staff of the University of Michigan as an instructor in thoracic and general surgery since 1945.

Dr. Harold I. Nemuth

Has been selected by Richmond Police Department employees as the Department physician, succeeding Dr. O. C. Brunk who died recently. Dr. Nemuth is a graduate of the Medical College of Virginia and served with the Navy for four years before entering private practice in Richmond.

Wanted

Physician for industrial practice. For particulars, write Medical Director, Clinchfield Coal Corporation, Dante, Virginia. (*Adv.*)

Wanted

Assistant to doctor in small industrial town in Southwestern Virginia. Contract and private practice. Will pay salary and commission, with prospect of taking over entire practice in future. Address "Practice", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

For Rent

Desirable office, centrally located in Richmond. Reasonable. If interested, dial 5-3267, or address "Office", care this journal, 1200 East Clay Street, Richmond. (*Adv.*)

OBITUARIES

Dr. Thomas Erle Rucker,

Well known Lynchburg physician died on September 4, after a prolonged illness which forced him to retire from practice in 1945.

He was born in Amherst County on December 3, 1880, attended Lynchburg schools and later the Medical College of Virginia, graduating in 1902. He practiced in the West Virginia coal fields, Roanoke, and from 1915 on in Lynchburg, being associated for many years with his uncle Dr. R. M. Taliaferro. After practicing one and a half years in West Virginia he studied at the University of Vienna in Austria. Since 1933, and following a course of study at Johns Hopkins University, he specialized in Gastroenterology.

He was a veteran of World War I having served as Chief Medical Officer at the debarkation hospital at Long Island, New York. He and Mrs. Rucker established the Rucker Cup award given annually to the outstanding athlete at the E. C. Glass High School in memory of their son, T. E. Rucker, Jr., who died while a student there. He is survived by his wife and one daughter.

WHEREAS a wise Providence has seen fit to remove from our midst our respected and loyal colleague, Dr. Thomas Erle Rucker, who for many years has been an outstanding Lynchburg physician practicing his chosen profession tirelessly, charitably and diligently,

NOW THEREFORE BE IT RESOLVED that we the members of the Lynchburg Academy of Medicine regret the death of our friend and associate whose fortitude and courage during his last illness was an inspiration to those who knew him best

That in his death the medical profession of our community and state has sustained a great loss

That we extend our heartfelt sympathy to his family in their bereavement, and

That a copy of these resolutions be placed on the min-

utes of the Lynchburg Academy of Medicine, Inc., a copy be sent to Dr. Rucker's family and to the VIRGINIA MEDICAL MONTHLY.

ERNEST G. SCOTT
JAMES R. GORMAN

Dr. Thomas Hambden Massey,

Prominent physician of Smithfield, died September 18th after a long illness. He was a native of Maryland and sixty-four years of age. Dr. Massey received his medical degree from the University of Virginia in 1907 and, after serving overseas during World War I, located at Smithfield where he practiced for twenty-nine years. He was well-known for his generosity and civic spirit and was a former member of the Ruritan and Rotary Clubs. Dr. Massey had been a member of the Medical Society of Virginia for thirty-one years. His wife survives him.

Dr. Fernando A. Ward,

Well known specialist of Suffolk, died October 9, after a long illness. He was seventy-three years of age and a graduate in medicine from the Medical College of Virginia in 1899. He started practicing at Hertford, N. C. and moved to Suffolk in 1921, continuing practice there until last year when forced to retire because of his health. Dr. Ward was a member of the Medical Society of Virginia, the Virginia Society of Ophthalmology and Otolaryngology, and several other medical organizations, besides being active in civic and fraternal organizations. His second wife and a daughter survive him.

Dr. William T. Chitwood,

For thirty-two years a prominent physician of Franklin County, died at his home in Rocky Mount, November 2, 1947. He was born in Rocky Mount, December 28, 1869, and studied medicine at the former University College of Medicine, Richmond, from which he graduated in 1897. Dr. Chitwood was a local surgeon for the Norfolk and Western railroad, physician to the county jail, member of the town and county boards of health and of the town council. He was also a member of the American Medical Association, the Medical Society of Virginia, and the Roanoke Academy of Medicine. He is survived by his wife, a daughter and two brothers.

Dr. J. Sinkler Irvine.

The Lynchburg Academy of Medicine, Incorporated, of which Dr. J. Sinkler Irvine was a popular and honored member, wishes to place on record this memorial as an expression of esteem and a tribute of respect to his memory:

WHEREAS, Dr. Irvine who has been a beloved colaborer in the science of healing in Bedford and Campbell Counties, as well as the City of Lynchburg where he first started practicing in 1893, and later moved to Evington in 1894, and whereas our association, both professional and social, has been close and harmonious, we, the members of The Lynchburg Academy of Medicine recognize the high order of his services and the fineness of his character offer the following resolutions.

BE IT HEREWITH RESOLVED, that in his death on May 30, 1948, Evington and a wide territory in the surrounding counties has suffered a serious loss. A general practitioner of the highest order, whose accomplishments were many and great. One truly a family physician whose skill and ability were unquestioned and who, during the many years of active service to his patients, gave unstintingly of his time to rich and poor alike. No distance too great, no night too dark or stormy to stay his effort. He walked many miles through mud and rain after going as far as possible in his buggy, or on horseback before the days of motor transportation.

The qualities of heart, firmness of purpose, beauty of soul and the other attributes of a Christian gentleman endeared him to those who knew him, the better knowledge bringing the deeper love and appreciation.

That a copy of these resolutions be spread on the minutes of this meeting. That a copy be sent to his family and to the VIRGINIA MEDICAL MONTHLY.

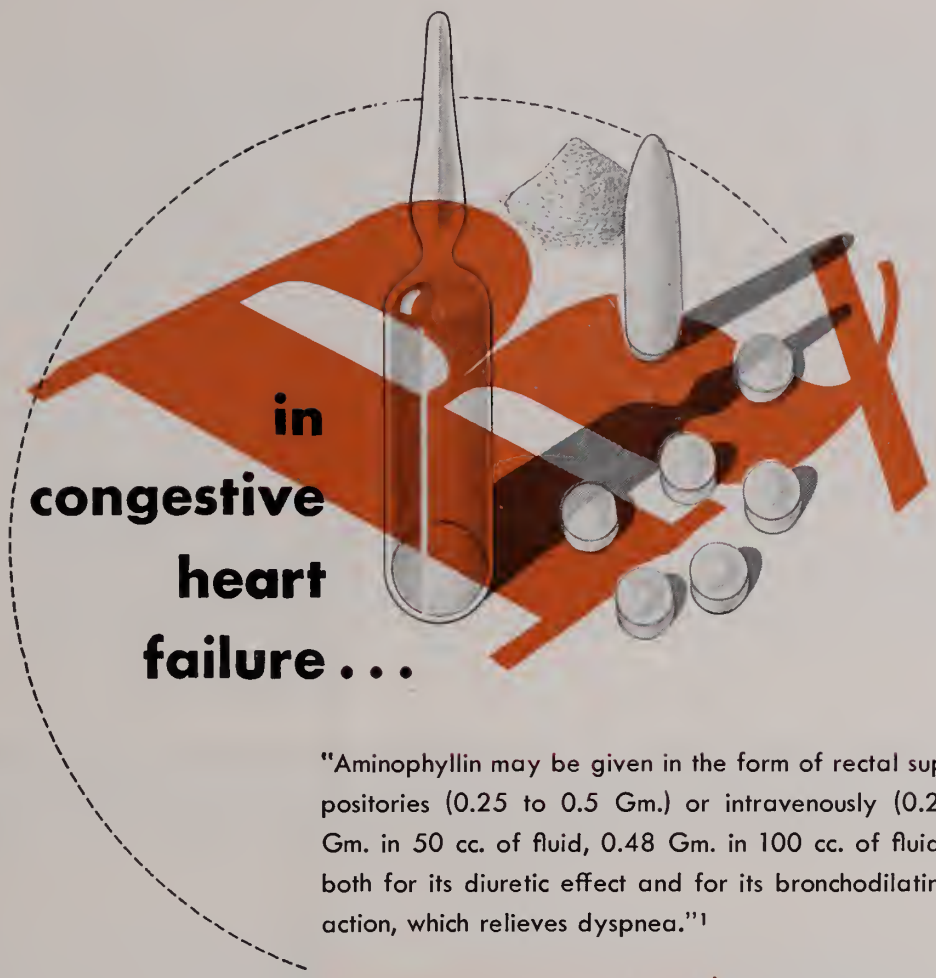
JAMES R. GORMAN
ERNEST G. SCOTT

Dr. Samuel Lewis Steer,

Leesburg, died March 30, having been in ill health for several years. He was seventy-two years of age and received his medical degree from the University of Pennsylvania in 1898. Dr. Steer had been a member of the Medical Society of Virginia for twenty-seven years.

Miss Josephine McLeod.

We regret to announce the death of Miss McLeod on October 4, after an illness of several weeks. She had served most efficiently since 1937 as executive secretary of the State Board of Nurse Examiners.



"Aminophyllin may be given in the form of rectal suppositories (0.25 to 0.5 Gm.) or intravenously (0.24 Gm. in 50 cc. of fluid, 0.48 Gm. in 100 cc. of fluid), both for its diuretic effect and for its bronchodilating action, which relieves dyspnea."[1]

SEARLE **AMINOPHYLLIN***

—meets the various dosage form requirements for congestive heart failure, bronchial asthma, paroxysmal dyspnea and Cheyne-Stokes respiration. It is supplied for oral, parenteral and rectal use.

G. D. Searle & Co., Chicago 80, Illinois

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

SEARLE

Research in the Service of Medicine

1. Orgain, E. S.: The Treatment of Congestive Heart Failure, North Carolina M. J. 8:125 (March) 1947.

*Searle Aminophyllin contains at least 80% of anhydraus theophylline.

Dr. Botts' Eye-Ear-Nose- and Throat Hospital

Norton, Virginia

Fully equipped for the Medical and Surgical care of all Eye-Ear-Nose-Throat, Facio-Maxillary, Bronchoscopical and Esophagoscopical Conditions.

GEORGE W. BOTTS, M.D., Surgeon in charge.

For Further Information Address:

Superintendent, Box 498, Norton, Va.

ELIZABETH BUXTON HOSPITAL AND TRAINING SCHOOL FOR NURSES

Newport News, Va.

FOUNDED 1906 BY JOSEPH T. BUXTON, M.D.

Russell Buxton, M.D.
Surgeon-in-charge

Approved by American College of Surgeons and American Medical Association for Internes
Approved by American Hospital Association.

TUCKER HOSPITAL

212 West Franklin Street
(corner of Madison)
RICHMOND, VIRGINIA

Private hospital for neuropsychiatric and endocrine cases under the charge of Drs. Beverley R. Tucker, Howard R. Masters and James Asa Shield.

FOR PATIENTS WITH

ALCOHOLIC PROBLEMS

. . . *The Farm*

A non-institutional arrangement in Howard County, Maryland, for the individual psychological rehabilitation of a limited number of selected voluntary patients with ALCOHOL problems — both male and female — under the psychiatric direction of Robert V. Seliger, M.D.

City office:

2030 Park Ave. Baltimore 17, Md.

JOHNSTON-WILLIS HOSPITAL

RICHMOND, ❖ VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE WEST END RESIDENTIAL SECTION

TWENTY-FIFTH ANNIVERSARY
1923-1948
of
McGUIRE CLINIC
and
SIXTY-SIXTH ANNIVERSARY
1882-1948
of
ST. LUKE'S HOSPITAL
RICHMOND, VIRGINIA

General Medicine
JAMES H. SMITH, M.D.
HUNTER H. MCGUIRE, M.D.
MARGARET NOLTING, M.D.
JOHN P. LYNCH, M.D.
W. T. THOMPSON, JR., M.D.
WM. H. HARRIS, JR., M.D.

Orthopedic Surgery
WM. TATE GRAHAM, M.D.
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.

Urology
AUSTIN I. DODSON, M.D.
CHAS. M. NELSON, M.D.

General Surgery
STUART MCGUIRE, M.D.
W. LOWNDES PEPLE, M.D.
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOHN ROBERT MASSIE, JR., M.D.

Otolaryngology
THOS. E. HUGHES, M.D.

Dental Surgery
JOHN BELL WILLIAMS, D.D.S.
GUY R. HARRISON, D.D.S.

Obstetrics
H. C. SPALDING, M.D.
W. HUGHES EVANS, M.D.
JAMES M. WHITFIELD, M.D.
WM. T. MOORE, M.D.

Ophthalmology
FRANCIS H. LEE, M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D.

Roentgenology
J. LLOYD TABB, M.D.

Pathology
J. H. SCHERER, M.D.

STUART CIRCLE HOSPITAL
413-21 STUART CIRCLE
RICHMOND, VIRGINIA

Medicine:
ALEXANDER G. BROWN, JR., M.D.
MANFRED CALL, III, M.D.
M. MORRIS PINCKNEY, M.D.
ALEXANDER G. BROWN, III, M.D.
JOHN D. CALL, M.D.

Obstetrics and Gynecology:
WM. DURWOOD SUGGS, M.D.
SPOTSWOOD ROBINS, M.D.

Orthopedics:
BEVERLEY B. CLARY, M.D.

Pediatrics:
CHARLES P. MANGUM, M.D.
ALGIE S. HURT, M.D.

Ophthalmology, Otolaryngology:
W. L. MASON, M.D.

Pathology:
REGENA BECK, M.D.

Director:
MABEL E. MONTGOMERY, R.N., M.A.

Surgery:
CHARLES R. ROBINS, M.D.
STUART N. MICHAUX, M.D.
A. STEPHENS GRAHAM, M.D.
CHARLES R. ROBINS, JR., M.D.
CARRINGTON WILLIAMS, M.D.
RICHARD A. MICHAUX, M.D.

Urological Surgery:
FRANK POLE, M.D.

Oral Surgery:
GUY R. HARRISON, D.D.S.

Roentgenology and Radiology:
FRED M. HODGES, M.D.
L. O. SNEAD, M.D.
HUNTER B. FRISCHKORN, JR., M.D.
RANDAL A. BOYER, M.D.

Physiotherapy:
MOZELLE SILAS, R.N., R.P.T.T.

Bacteriology:
FORREST SPINDLE

THE GEORGE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

Announces

FOURTH ANNUAL SERIES OF INTENSIVE POSTGRADUATE COURSES

(1)	Ocular Pathology, Motility and Orthoptics	January 10-14, 1949
(2)	Psychosurgery	January 24-28, 1949
(3)	Psychiatry	January 31—February 11, 1949
(4)	Therapeutics	January 31—February 4, 1949
(5)	Gastrointestinal Problems in Pediatrics	February 7-11, 1949
(6)	Obstetrics	February 14-18, 1949
(7)	Gynecology	February 21-25, 1949
(8)	Anesthesiology	February 28—March 4, 1949
(9)	Surgical Physiology	March 7-11, 1949
(10)	Abdominal Surgery	March 14-25, 1949
(11)	Bone and Joint Surgery	March 28—April 1, 1949
(12)	Neoplastic Diseases	April 4- 8, 1949
(13)	Metabolic Diseases	April 11-15, 1949
(14)	Thoracic Diseases	April 18-22, 1949
(15)	Cardiovascular Diseases	April 25—May 6, 1949
(16)	Gastroenterology	May 9-13, 1949

By appropriate combinations of the above, the following longer courses can be arranged:

For the Psychiatrist (courses #2, 3)	January 24—February 11, 1949
For the General Physician (courses #4, 5, 6)	January 31—February 18, 1949
For the Obstetrician (courses #6, 7)	February 14-25, 1949
For the Surgeon (courses #7, 8, 9, 10, 11, 12)	February 21—April 8, 1949
For the Internist (courses #13, 14, 15, 16)	April 11—May 13, 1949

(other combinations can also be arranged)

A DISTINGUISHED GUEST FACULTY WILL SUPPLEMENT THE LOCAL STAFF

Registration in each course is limited. Hotel accommodations are available.
Veterans can use their benefits under the G. I. Bill.

For further details write:

DIRECTOR OF POSTGRADUATE INSTRUCTION
THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE
1335 H Street, N.W.
Washington 5, D. C.

This baby's mother learned about Mead's Oleum Percomorphum from her physician, not from public advertising or displays.
"Servamus Fidem"
HOW much sun does the infant really get?
Not very much: (1) When the baby is bundled to protect against weather or (2) when shaded to protect against glare or (3) when the sun does not shine for days at a time. Mead's Oleum Percomorphum is a prophylactic against rickets available 365¼ days in the year, in measurable potency and in controllable dosage. Use the sun, too.
Mead Johnson & Co., Evansville, Ind., U.S.A.

THE N.Y. ACADEMY
OF MEDICINE
DEC 14 1948
LIBRARY

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Guest Editorial. James Raglan Miller, M.D., Hartford, Conn. 595

Specialization: Its Advantages and Abuses. B. R. Kirklin, M.D., Rochester, Minn. 597

The Management of Esophageal Lesions. William P. Longmire, Jr., M.D., Baltimore, Md. 601

Influenza Virus Vaccine, Types A and B. Wyndham B. Blanton, M.D., and Adney K. Sutphin, M.D., Richmond, Va. 607

Proceedings—Medical Society of Virginia 616

Continued on page 6.

BEST WISHES
FOR CHRISTMAS!

December, 1948

First matured

Ampoules THEELIN ***in Oil:***

0.1 mg. 1000 International Units Amp. 178
0.2 mg. 2000 International Units Amp. 179
0.5 mg. 5000 International Units Amp. 191
1 mg. 10,000 International Units Amp. 182

Ampoules THEELIN ***Aqueous Suspension:***

1 mg. 10,000 International Units Amp. 312
2 mg. 20,000 International Units Amp. 304
5 mg. 50,000 International Units Amp. 313
Boxes of 6 and 25 Amp. 312 Boxes 6 and 50

Steri-Vials® THEELIN in Oil, 10 cc. (1 mg. per cc.)

THE GEORGE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

Announces

FOURTH ANNUAL SERIES OF INTENSIVE POSTGRADUATE COURSES

(1)	Ocular Pathology, Motility and Orthoptics	January 10-14, 1949
(2)	Psychosurgery	January 24-28, 1949
(3)	Psychiatry	January 31—February 11, 1949
(4)	Therapeutics	January 31—February 4, 1949
(5)	Gastrointestinal Problems in Pediatrics	February 7-11, 1949
(6)	Obstetrics	February 14-18, 1949
(7)	Gynecology	February 21-25, 1949
(8)	Anesthesiology	February 28—March 4, 1949
(9)	Surgical Physiology	March 7-11, 1949
(10)	Abdominal Surgery	March 14-25, 1949
(11)	Bone and Joint Surgery	March 28—April 1, 1949
(12)	Neoplastic Diseases	April 4- 8, 1949
(13)	Metabolic Diseases	April 11-15, 1949
(14)	Thoracic Diseases	April 18-22, 1949
(15)	Cardiovascular Diseases	April 25—May 6, 1949
(16)	Gastroenterology	May 9-13, 1949

By appropriate combinations of the above, the following longer courses can be arranged:

For the Psychiatrist (courses #2, 3)	January 24—February 11, 1949
For the General Physician (courses #4, 5, 6)	January 31—February 18, 1949
For the Obstetrician (courses #6, 7)	February 14-25, 1949
For the Surgeon (courses #7, 8, 9, 10, 11, 12)	February 21—April 8, 1949
For the Internist (courses #13, 14, 15, 16)	April 11—May 13, 1949

(other combinations can also be arranged)

A DISTINGUISHED GUEST FACULTY WILL SUPPLEMENT THE LOCAL STAFF

Registration in each course is limited. Hotel accommodations are available.
Veterans can use their benefits under the G. I. Bill.

For further details write:

DIRECTOR OF POSTGRADUATE INSTRUCTION
THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE
1335 H Street, N.W.
Washington 5, D. C.

Further evidence of the safety of Benzedrine Sulfate therapy

More data, showing that Benzedrine Sulfate, in proper dosage, produced no toxic effects, have lately been published in a study by Caveness.[1]

He gave the drug for 14 consecutive weeks to 23 unselected hospital patients whose ages *averaged 65 years.* Daily dosages over the period ranged from 5 to 30 mg. The author observes:

". . . no significant changes were noted in the cardiovascular, urinary, hematopoietic, or respiratory systems . . ."

From this study, it would appear that Benzedrine Sulfate may be safely used in the treatment of depression in the aged.

1. New York State J Med. 47:1003

Benzedrine* Sulfate tablets • elixir

(racemic amphetamine sulfate, S.K.F.)

one of the fundamental drugs in medicine

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

Virginia Medical Monthly

Vol. 75, No. 12
WHOLE No. 1158

RICHMOND, VA., DECEMBER, 1948

$2.00 A YEAR
25 CENTS A COPY

GUEST EDITORIAL

A Widening Horizon for Physicians

A PHYSICIAN'S life work is so fascinating that he enjoys talking shop—discussing interesting cases and searching among his books and journals for new and better methods to use in his practice. So absorbed is he in the care of individuals that he does not readily think of himself as a physician in relation to the vast projects of public health and sanitation which he hears about. He may take a certain patriotic pride in the fact that our military health services made it safe for the boys to fight in disease infested jungles in all parts of the world, and he may even remember with a glow of satisfaction that sanitation made possible the building of the Panama Canal.

What has all this to do with the World Health Organization about which your editor asked me to write a few words. It is just this. Although my contact with public officials on the local and state basis, and even on the national basis, had been more than is experienced by the average physician, I felt very remote and detached from the world-wide movements affecting health such as were under consideration at the World Health Assembly. I believe it is highly significant, therefore, that those who made the selections of the United States Delegates to the First World Health Assembly should have invited one of the general officers of the American Medical Association, and not merely as an observer but as one of the three official delegates. This signifies that the Government, in this case the State Department and the United States Public Health Service, rate practitioners of medicine as essential members of the forces who combat disease the world over. Aside from the great responsibility of my duties I felt that here was an opportunity to learn not only the ways of the public officials but to study the part which private practitioners might have to play in the future, for there were scarcely a handful of us practitioners of medicine among the public health officers, diplomats, and experts of all kinds who made up the World Health Assembly. It was indeed an assembly of the official agents of fifty-four governments seeking to coordinate the attack on disease in all parts of the world.

Geneva was selected for headquarters without much difficulty and the world was divided into regions with comparative ease. These were (1) Europe, (2) Eastern Mediterranean, (3) Africa, (4) Indian South Eastern Asia, (5) Western Pacific and (6) The Americas.

After much negotiation six principal activities were adopted, they being by unanimous consent the chief areas of need in the field of health and in the following order: (1) Malaria, (2) Maternal and Child Health, (3) Tuberculosis, (4) Venereal Disease, (5) Environmental Sanitation, (6) Nutrition. Many other health interests are under consideration in varying degrees of intensity. These are too numerous to consider in an article of this kind though one should note that there were adopted forms for certification of death and vaccination, and there was adopted a common nomenclature of disease.

I have had occasion since I returned from Geneva to speak with many people about my experiences and I find great interest in the fact that the Russians were members

of this and of no other of the specialized agencies of the United Nations. Health seems to be a common interest of all mankind and it oozes, so to speak, underneath the iron curtain in spite of difficulties of language and ideologies.

Congressman Fenton who was a congressional observer went to Geneva very skeptical about the organization and came away convinced that it is worthwhile. I, too, am enthusiastically hopeful. As I read the metropolitan newspapers there is scarcely a day that I fail to note some one of the United Nations' agencies is doing in some part of the world for better health and for better living conditions.

It is a great satisfaction to me, since I helped to write the conditions under which nongovernmental agencies come into relation with the World Health Organization, to report that the World Medical Association has already become affiliated. If we look forward to a condition in which every health officer is a physician and every physician considers himself a health officer, I am sure that we are progressing in the right direction in bringing about a closer affiliation of the public and private branches of our profession. This is good for people everywhere.

JAMES RAGLAN MILLER, M.D.,
Hartford, Connecticut.

179 Allyn Street

EDITOR'S NOTE: Dr. Miller was one of three official delegates to the World Health Organization. He is also a trustee of the American Medical Association.

Bibliotheca Obstetrica

Arantius, Julius Caesar, 1530-1589: De humano foetu libellus. A Laurentio Scholzio, Silesio, eius discipulo, in lucem editus. *Basileae, Petrie,* 1579. 99 p. 14cm.: De humano foetus libellus, *Lugduni Batav. F L. deHaro,* 1664. 50 p. bound with 1: Plazzoni, Francesco: De partibus generationis. 2. Nymmanus, Gregorius: De vita foetus in utero.

The author was a pupil of Vesalius. He was subsequently professor of medicine, surgery and anatomy at Bologna. According to DeLint he gave the first adequate printed account of the gravid uterus and its contents. In the course of this he described the ductus arteriosus and the foramen ovale. He believed the foetal and maternal circulations to be separate. He was the first to record a pelvic deformity. (Garrison & Morton)

Hippocrates taught that the pubic bones opened to allow the birth of the baby and that the infant forced his way through the birth canal by his own power. According to Eastman, Vesalius, Arantius and Columbo were the first to disprove the old hypothesis of symphyseal separation in labor. Eastman gives a good translation by Temkin of Arantius, chapter on pelvic contraction (Obstetrical and Gynecological Survey, 3:301, 1948). This is from the third edition, Venice, 1587, and is not found in either of the editions, that are in the Miller Library of the Richmond Academy of Medicine.

SPECIALIZATION: ITS ADVANTAGES AND ABUSES*

B. R. KIRKLIN, M.D.,
Sections on Radiology, Mayo Clinic,
Rochester, Minnesota.

From the beginning, medicine has had its specialists. In the Hippocratic Oath we find this declaration: "I will not cut for stone, even for patients in whom the disease is manifest; I will leave this operation to be performed by practitioners (specialists in this art)." Castiglioni, in his history of medicine, has stated: "The Assyrian and Babylonian physicians were often called into consultation as far as Egypt. . . . Herodotus to the contrary notwithstanding, there were certainly specialists. . . ."[1] In the days of the Roman emperors Trajan and Hadrian, according to this historian, "Specialists were common. . . . There were many oculists. . . . There were also dentists, gynecologists, otologists, specialists for fistula."[2]

Through the centuries to the present, specialization has continued, apparently without major interruption and, until only a few decades ago, without any significant change of process or pattern or relation to medicine in general.

At the advent of the nineteen hundreds, as our elders and some of us can easily recall, there were fewer specialties in America than now, and fewer specialists both in the aggregate and in proportion to the nonspecialists. In general, the specialists were to be found only in the large cities, but some of them made periodic visits to the smaller cities and towns and received patients there. Some patients were referred by the family physician, others came directly to the specialist on the advice of their friends. Some of the specialties were organized but only to furnish forums for scientific discussions and to exclude incompetent or unethical specialists from recognition.

The attitude of the general profession toward specialists, except perhaps toward surgeons and ophthalmologists, was not thoroughly respectful. The surgeons were esteemed partly for their skill and partly for their courage. They had come a long way from their humble beginning, for in Babylonia the surgeon ranked as a slave of the physician.[3] In about 1900 many specialists, even well-established surgeons, continued to engage in general practice among their old-time patients, and that custom was not pleasing to the general practitioners. Another factor calculated to give general practitioners a superiority complex was their feeling that specialization implied an admission that the specialist had not been able to practice successfully in the entire field of medicine. This attitude was more or less justified and perhaps intensified by the widely varying competence of specialists, which was a natural result of their widely varying methods and degree of preparation for their work. A considerable number went abroad to study their specialty, and some of them remained long enough to acquire proficiency. Others assisted a well-qualified American preceptor until they themselves became qualified. But many spent only a few weeks at home or abroad attending undergraduate or review courses, and a few confined their preparation to short visits to noted specialists or clinics. Every specialist was the final judge of his own ability, and often neither the general profession nor the public could distinguish the capable from the incapable. All the circumstances at that time combined to minimize the influence of specialization on medical science and art, except as individual specialists here and there advanced their specialty and thus contributed to the total of medical progress, which still seemed painfully slow.

But almost synchronously with the turn of the century the speed of medical advance began to accelerate. It was the beginning of an era that was practically new, though indebted to its predecessor for many scarcely noted but important antecedents, an era of invention and discovery. The airplane was about to be born and in company with the automobile was to revolutionize transport. Chemistry was laying the groundwork for the highly useful synthetic drugs that were to come later. Asepsis was making practicable operations that had been considered impossible. Roentgen had found the rays he called "X," and already they were being used in medical diagnosis. Specialties and specialists multiplied. Medicine was marching on, and

*Read at the annual meeting of the Medical Society of Virginia, in Richmond, October 18, 1948.

the great length and breadth and speed of that march would not have been possible without specialization. That rapid and ever-widening advance has continued to the present day without interruption, but until 1916 the specialties did not begin to put their houses in order and establish standards of proficiency for their practitioners.

In 1916 the eye specialists established the American Board of Ophthalmology and empowered it to prescribe minimal qualifications for all who desired the Board's certificate of competence to practice this speciality. Eight years later (1924) a similar Board, that of Otolaryngology, was instituted. Then followed in order the Boards of Obstetrics and Gynecology (1930), Dermatology and Syphilology (1932), Pediatrics (1934), Psychiatry and Neurology (1934), and Radiology (1934).

Further progress was fostered by the establishment in 1934 of the Advisory Board for Medical Specialties. It is composed of two representatives from each of the specialty boards and two from each of the following organizations: The Association of American Medical Colleges, The American Hospital Association, The Federation of State Medical Boards of the United States, and the National Board of Medical Examiners. As its title indicates, the function of the Advisory Board is to offer advice and furnish information to the specialty boards and institutions concerned with graduate and postgraduate medical education as it pertains to specialization, to consult with groups proposing the formation of new specialty boards, and to approve or disapprove of such proposals. The establishment of the Advisory Board had a stabilizing effect on the formation of additional specialty boards, and the following have been instituted: American Board of Urology (1935), Orthopedic Surgery (1935), Internal Medicine (1936), Pathology (1936), Surgery (1937), Anesthesiology (1938), Plastic Surgery (1939), Neurological Surgery (1940), and Physical Medicine (1948).

Today there are sixteen organized and formally recognized specialties with many thousands of special practitioners, and they are now an integral part of American medicine. It may be of interest, therefore, to consider some of the results of this expanded specialization, for it has greatly affected every aspect and activity of our profession.

First of all, it must be recognized that specialization, with its division of labor, facilitates more intensive cultivation of limited fields and it is a normal and progressive step in the evolution of medical science and art. It has been a leading factor in the tremendous advance of medicine during the last fifty years. It has made group practice both feasible and efficient. It has made all of medicine more serviceable to the public and more satisfactory to the physician by expanding knowledge in the individual fields of medicine. In view of these achievements it is not surprising that specialization was made the basis for organization of our military medical services in World War II, nor is it surprising that these services were conspicuously efficient. In consideration of its beneficent effects specialization may be expected to operate increasingly as long as medicine exists. Nevertheless, along with its admirable accomplishments, specialization has given rise to disturbances of the medical equilibrium of intraprofessional balances and relations, with resulting collateral problems, and it is particularly of them that I shall speak today.

Some of these maladjustments arise from the difficulty of drawing boundaries between the specialties. Most of these jurisdictional disagreements spring from reasonable differences of opinion, and, though sometimes irritating, are of no great significance. More detrimental is over-intensive specialization—strict devotion of the specialist to his own field, so strict that he knows and cares little about any other provinces of medicine. Of course, every specialist has had a broad medical education, but unless he maintains contact with all branches, especially those that adjoin his own, his patients will not receive their just due. The most skilful radiologists that I have known were also excellent clinicians.

By its substantial contributions to the sum of medical knowledge specialization has been highly beneficial to medical education, but it has also imposed additional burdens on the teaching institutions. One great aim of the specialties and their examining boards is to promote and insure the competence of future specialists. This they hope to accomplish by planning and prescribing adequate courses of graduate instruction in qualified teaching institutions. This in turn necessitates extensive alteration and expansion of former courses and complicates the work of the institutions. For instance, most of the boards require that the student

be given instruction in the basic sciences related to the chosen specialty. To be sure, the student will have had undergraduate instruction in the basic sciences, but at graduation much of this knowledge will have faded. Furthermore, it is recommended that this knowledge be not only refreshed but expounded in the light of its relation to the individual specialty. Some boards also prescribe the manner in which this instruction shall be given. Thus, with many different specialties requesting correspondingly different courses, a complex and difficult task is given to the teaching institutions, which are also severely taxed in other respects.

In some quarters there seem to be apprehensions that specialization is becoming destructive, that it is a disintegrating, centrifugal force, tending to break up medicine into detached sciences, and it is suggested that efforts be made to reintegrate the specialties into a coherent and co-ordinated medical unit. Although this rather dismal view has been expressed or intimated by medical scholars whose opinions are entitled to respect, I do not share their pessimism. Co-ordination of the specialties is still imperfect, and medicine may appear to be dissolving into independent units, but I feel rather that the medical domain is expanding into a great empire of individual, but still united, states.

On the whole, the undesirable complications of specialization that I have recounted are trivial in comparison with its benefits and in time they will probably correct themselves, but there is one reaction of which this cannot be said and that is the effect of present-day specialization on the general practice of medicine. In recent times, especially during the past two decades, the number of specialists has increased without a corresponding increase in the number of general practitioners. Late surveys in several medical schools revealed that only 2 to 10 per cent of students expected to engage in general practice. The extraordinary efficiency resulting from specialization of the medical services during World War II so impressed the medical personnel that a surprisingly large number of returned officers and students began graduate training for specialties. To obtain a complement of young medical officers, our present peacetime Army and Navy have found it necessary to set up specialty training programs equivalent to those offered by civilian institutions. Some of the reasons for this magnetic attraction toward the specialties are obvious. General practice with its twenty-four hour shift of duty, its night calls, its frequently long and lonely drives and its repeated exposures to inclement weather, is not as agreeable as the practice of any specialty. Moreover, its average earnings are less than those of a specialty and harder to gather in. The dignity of the general practitioner has suffered unjustly, for, whereas in the past he felt superior to the specialist, now all circumstances conspire to give him an inferiority complex.

To add to the troubles of the general practitioner he has sometimes been treated unfairly in quarters where he was entitled to friendly co-operation. Many hospitals, in their zeal to improve the quality of their service, have demanded certification by a specialty board as a prerequisite to membership on the staff. This bars the general practitioner from caring for his patients in the hospital to the extent of his ability, and is such a manifest injustice that it has been given serious consideration by medical organizations. All the specialty boards and the Advisory Board for Medical Specialties have recorded their vigorous opposition to this practice. The House of Delegates of the American Medical Association also has adopted resolutions condemning this discrimination and has recommended that sections for general practice be established in all hospitals.

Surely we have no need to remind ourselves that the general practitioner is indispensable to the public and is the basic unit of the medical profession. It is safe to assert that the volume of service rendered by general practitioners to the public, whether measured by the number of patients or man-hours of work, far exceeds that given by specialists. On the general practitioner falls the duty of caring for the innumerable cases of acute disease; of giving first and often final aid in emergencies; of doing minor, or occasionally major surgery, and of treating successfully a great mass of patients for various acute and chronic ailments at their homes. Finally, as the family doctor familiar with the patient's history and so-called constitution, it is his privilege to decide whether and what special aid is necessary.

As a matter of self-interest, if for no other reason, all other groups in the profession should vigorously defend the general practitioner from exploitation and actively assist him in securing his rights and proper dignity. To help in achieving

these and correlative aims, the general practitioners themselves have formed a national organization. Among its purposes are the promotion and maintenance of high standards in the general practice of medicine and surgery, and the establishment of thorough postgraduate courses of instruction for practitioners. Membership is limited to physicians who can prove their competence through training and experience and is limited to three years, at the end of which the member in order to be reelected must show that he has devoted at least 150 hours to postgraduate study during the period. I am told that the organization is growing rapidly and promises to aid substantially not only in maintaining the rightful prerogatives of the general practitioners but also in promoting the welfare of the public and the profession at large.

Obviously, additional measures should be taken. Through the co-operation of local medical societies more laboratories to apply the multitude of diagnostic tests now employed should be made available to the general practitioner; by agreement with his colleagues, night calls can be distributed by allotment or alternation. Whenever practicable, referred patients should be returned to him scrupulously for continued observation and treatment.

I realize that I have described more problems than solutions, but my chief aim has been to set you to thinking earnestly about matters that are of vast importance to all of us. Over us hangs the constant threat of socialized medicine and we should put our house in order in every way. One of the most effective ways to meet that threat is to help the general practitioner recover his rightful inheritance of professional powers and prerogatives.

REFERENCES

1. Castiglioni, Arturo: History of Medicine. (Translated and edited by E. B. Krumbhaar.) Ed. 2, New York, Alfred A. Knopf, 1947, p. 39.
2. Castiglioni, Arturo: History of Medicine. (Translated and edited by E. B. Krumbhaar.) Ed. 2, New York, Alfred A. Knopf, 1947, p. 239.
3. Castiglioni, Arturo: History of Medicine. (Translated and edited by E. B. Krumbhaar.) Ed. 2, New York, Alfred A. Knopf, 1947, p. 38.

Interesting Hospital Figures.

Almost 18 million Americans were admitted into the 6,173 hospitals of the United States in 1947, according to the 1948 American Hospital Directory compiled and published by the American Hospital Association. This represents an average of one of every eight Americans receiving hospital care.

Approximately 16 million patients, two million more than in 1946, were admitted to general hospitals during the year. In addition, 40 million hospital visits were made by outpatients, those needing special tests or treatments without bed care.

The average cost of caring for a patient for one day in a general hospital rose from $9.39 to $11.09 in the year 1946-1947, according to the Directory. Yet the average income from patients was $9.71, leaving a daily deficit of $1.38 per patient to be made up through voluntary contributions and gifts from the public.

Part of the $2,354,344,000 expended by hospitals in 1947 was for the salaries of the 79 fulltime employees serving every 100 patients in all types of hospitals. General hospitals had approximately 151 employees for every 100 patients to maintain prevailing high standards of patient care. Hospitals spent about 400 million dollars more in 1947 than in 1946, because of higher wages, higher prices, and expanded services.

Ten years ago, in 1937, 9,221,517 patients were admitted to hospitals, according to this report. During this ten year span, hospital admissions have increased almost 100 per cent.

THE MANAGEMENT OF ESOPHAGEAL LESIONS*

WILLIAM P. LONGMIRE, JR., M.D.,
The Johns Hopkins Hospital,
Baltimore, Maryland.

It is the purpose of this paper to review briefly certain of the more common pathological conditions of the esophagus and the present day concepts of their management.

In structure, function, and symptomatology the esophagus is a rather simple organ. It is a more or less straight muscular tube some 11 inches in length. The wall is composed of three layers: a lining of mucous membrane, a middle layer of loose fibrous tissue called the submucosa and an outer muscular layer of both circular and longitudinal muscle fibers. The only known function of the esophagus is the mechanical transportation of material from the mouth to the stomach. Its only glands are mucous glands whose products lubricate the passage-way. It forms no secretions, which play an active part in digestion nor is it known to produce any internal secretion. Absorption from even the dilated obstructed esophagus is nil.

With one or two exceptions the principal symptom of any type of esophageal abnormality is some degree of dysphagia. This may vary from a slight occasional "hang" as solid foods are swallowed to an inability to swallow even saliva. Or it may be evidenced by the regurgitation of large amounts of undigested material swallowed several hours previously. Pain, another common symptom, is generally poorly localized, develops late in the course of the abnormality and usually indicates involvement of surrounding structures by the disease process. Unfortunately such symptoms frequently develop so insidiously that the lesion is far advanced when the patient first seeks medical attention or when the patient's doctor applies specific diagnostic measures. Such delay is particularly prone to occur in the case of carcinoma of the esophagus and many such growths are found to have extended beyond the limits of resectibility at operation.

The diagnosis of esophageal lesions depends chiefly on two special methods: First, X-ray examination with the structure filled with an opaque substance such as barium, or direct examination of the lumen of the esophagus with the esophagoscope. The deep location of the esophagus makes external examination of little value in the diagnosis of most abnormalities, although there are certain exceptions which will be pointed out later.

Preoperative Care: Some of the most frequent esophageal lesions occur in the extremes of life, the congenital abnormalities frequently requiring operation in the first few days after birth and the malignant lesions often occurring in the aged. Complete or nearly complete obstruction of the esophagus commonly gives rise to pulmonary infections from aspiration, and, although such infections are difficult to eliminate until the obstruction has been removed, improvement may be expected from repeated or constant suction of the hypopharynx and the administration of penicillin and/or sulfamerazine. The nutrition and state of hydration are often markedly below normal and, although adequate intravenous therapy will usually temporarily improve these conditions, at times a gastrostomy and tube feedings are necessary to improve the patient for further surgery. Regardless of the method used the patient's intake must be carefully controlled to insure an adequate supply of fluid, salt, carbohydrate, protein, and vitamins. Anemia must be corrected by transfusions of whole blood. Some lesions such as varices are apt to be associated with impaired function of other organs. The preoperative care, once the diagnosis has been made, is directed at correcting as nearly as possible these abnormal conditions.

Congenital Anomalies: By far the most common congenital anomaly of the esophagus is esophageal atresia with an associated tracheo-esophageal fistula between some portion of the obstructed esophagus and the trachea.

Four main varieties of this condition occur. In type III, which occurs in about 80 per cent of the cases, the upper esophagus ends in a dilated blind pouch, and the lower esophageal segment opens into the trachea just above the bifurcation.

Diagnosis: Immediately after birth excessive

*Read before the meeting of staff and guests of the Jefferson Hospital, Roanoke, Virginia, May 24, 1948.

saliva is noted in the nose and mouth and attacks of choking and cyanosis occur as swallowed saliva fills the obstructed upper esophageal segment and overflows into the trachea. Attempts at feeding the infant aggravate such symptoms and precipitate attacks of coughing, cyanosis and immediate vomiting. If the condition goes unrecognized aspiration pneumonia and dehydration terminate the infant's life within a few days.

The diagnosis should be confirmed by passing a catheter down the esophagus and observing it under the fluoroscope as it meets the obstruction. X-rays taken after filling the upper esophageal segment with a small amount of lipiodol will also clearly demonstrate the atresia. It is important during this portion of the examination to determine if there is gas in the stomach and intestinal tract. The presence of gas denotes a communication between the lower esophageal segment and the trachea or bronchi and in about 90 to 95 per cent of such cases an end to end anastomosis of the two esophageal segments will overcome the obstruction. On the other hand, the absence of gas in the stomach or the intestine indicates that there probably is not a communication between the lower segment and the trachea, and this segment frequently extends such a short distance above the diaphragm that it is possible to anastomose the two ends of the esophagus in only about 10 per cent of these cases. After the second or third day most of these patients have aspiration pneumonia that frequently involves the upper lobe of the right lung.

Preoperatively: The infant is placed in an oxygen tent; a small nasal catheter is placed in the nasopharynx and constant suction maintained. Penicillin is given intramuscularly. A period of 12 to 24 hours may be required to adequately hydrate the child. A blood transfusion is usually given before operation.

Operative Technique: With the patient under ether or cyclopropane anesthesia, a curved incision is made parallel to the medial border of the right scapula about midway between the border of the scapula and the vertebral spines. Segments of the right third, fourth and fifth ribs are excised and the pleura reflected from the chest wall until the posterior mediastinum is reached. The dilated upper esophageal pouch is usually readily identified. If a fistula is present between the trachea and esophagus this is divided, and the tracheal opening closed. An opening is then made in the upper esophageal pouch and the upper and lower segments of the esophagus united by an end to end anastomosis. This procedure can be performed in the majority of cases. In a few cases such an anastomosis is not feasible and the lower segment is tied off and the upper segment is freed and then brought to the outside and opened through an incision in the anterior part of the neck. A gastrostomy is performed. At subsequent operations an attempt is made to connect the end of the esophagus to the stomach by constructing some type of channel on the anterior chest wall. If a primary end to end anastomosis has been performed a temporary gastrostomy is usually done 48 hours after the first operation.

Postoperative Care: The infant is placed in an oxygen tent, constant suction of the hypopharynx is maintained, and intramuscular penicillin is given. Parenteral fluids and repeated small blood transfusions are given as indicated until an adequate intake is maintained by gastrostomy feeding. If healing is satisfactory, fluids by mouth are begun cautiously on the fifth day after operation.

Esophageal Stenosis: This condition in which there is partial but incomplete obstruction of the esophagus is rare. The narrowing is most apt to occur in the middle third of the esophagus about the level of the bifurcation of the trachea or in the lower third just above the diaphragm. Mild degrees of stenosis may be stretched by passing a bougie through the mouth and down the esophagus. In the more severe degrees of stenosis with dilatations of the esophagus above the point of partial obstruction it may be necessary to perform a gastrostomy through which adequate nutrition can be maintained. The child is given a long piece of string to swallow, one end of which is "fished out" of the gastrostomy; then bougies are pulled through the gastrostomy and stomach back up through the esophagus for retrograde dilation of the stenosed area. If such treatment is ineffectual and a severe degree of stenosis persists, further operative treatment should be considered, such as advancing the stomach into the thorax, as described in the section dealing with malignant lesions.

Congenitally Short Esophagus: The esophagus occasionally ends above the diaphragm and a por-

tion of the cardiac end of the stomach extends up through the esophageal hiatus. Often the condition is asymptomatic although at times it may be associated with ill defined symptoms of dyspepsia. No specific treatment is indicated other than medicinal symptomatic therapy. The chief importance of this condition lies in its roentgenological differentiation from the hiatus hernia—a condition in which the esophagus is of normal length but a portion of the stomach herniates through the esophageal opening in the diaphragm. This latter condition frequently gives rise to discomforting symptoms which may be relieved by a surgical repair of the hernia.

Compression of the Esophagus by Adjacent Congenital Anomalies: Various types of rare congenital tumors and cysts in the posterior mediastinum, such as reduplication of the esophagus, bronchogenic cysts, teratomas, etc., may by compression cause obstructive esophageal symptoms. Removal of such tumors, of course, alleviates these symptoms and is usually indicated.

Congenital anomalies of the aortic arch and the large arteries which arise from it may form a ring about the trachea and esophagus and cause compression of the esophagus. Gross has recently described a method of relieving such compression by dividing some unimportant segment of such a vascular ring.

Diverticula of the Esophagus: Diverticula of the esophagus are of two varieties—traction and pulsion. The traction type occurs in the middle third of the esophagus, usually as an end-result of an infection in the mediastinal lymph nodes. As the infection subsides the contraction of the adherent scar tissue pulls out a portion of the esophageal wall to form a small diverticulum. This condition is almost always asymptomatic and is noted most frequently as an incidental finding by the radiologist during X-ray examination of the alimentary tract or by the pathologist at post mortem examination. Treatment is not indicated.

The commoner variety, the pulsion diverticulum, is a sac which originates in the posterior esophageal wall at the level of the lower border of the larynx where the two sets of oblique pharyngeal muscles unite with the circular muscle of the esophagus. This triangular junction is apparently the most vulnerable spot in the esophageal wall. It repeatedly receives the full force of the swallowed bolus, as food or liquids are forced downward by the powerful upper pharyngeal muscles and funneled into the smaller lumen of the esophagus. A congenital weakness at this point of stress is thought to account for the development of the diverticulum, although, when seen, most of these patients have reached adult life. As the sac enlarges it presents to one side or the other, usually the left. The patient may be aware of peculiar sounds or slight discomfort associated with swallowing. At times there is regurgitation of foul-smelling undigested food swallowed sometime previously. Usually the condition is best diagnosed by X-ray visualization of the sac after a swallow of barium mixture.

Treatment of the condition is usually by surgical excision. The posterior esophageal wall is exposed through an incision along the anterior border of the sternomastoid muscle. The neck of the sac is divided and the diverticulum removed. The opening into the esophagus is carefully closed by two suture lines, one in the mucosa and a second in the muscularis. Formerly this excision was carried out in two stages. However, with local and systemic use of penicillin and improved surgical techniques, recent reports favor the one-stage procedure.

Small diverticula may be treated by crushing the neck of the sac and inverting the sac into the lumen of the esophagus. Such a procedure has the advantage of not exposing the tissues of the neck to contamination from the inside of the diverticulum or the esophagus; however, possible recurrence of the diverticulum or obstruction to the esophageal lumen are justifiable criticisms of this procedure.

In certain debilitated patients symptomatic relief may be obtained by freeing the diverticulum from its dependent position and suturing it to adjacent tissues in the neck so that the sac lies above the opening into the esophagus. Thus, with the patient in the upright position, the contents of the diverticulum will drain spontaneously into the lumen of the esophagus.

Esophageal Varices: The blood in the veins about the lower portion of the esophagus normally drains down through vessels along the stomach, empties into the portal venous system, and passes through the liver before returning to the heart by way of the inferior vena cava. Anything that obstructs

the free flow of this blood through these veins, such as a thrombus in certain portions of the portal system, or through the liver, as in many cases of cirrhosis, raises the pressure in the esophageal veins and causes them to be quite distended. These dilated thin-walled vessels along the lumen of the esophagus are easily ruptured and the resultant bleeding may be severe.

A history of copious gastro-intestinal hemorrhage with the vomiting of blood and the passage of tarry stools coupled with the finding of an enlarged spleen or evidence of impairment of liver function will suggest the presence of esophageal varices. They can be visualized by a roentgenogram of the esophagus filled with a barium mixture, and if desired may be cautiously visualized through the esophagoscope.

Treatment: There are four general methods of treatment.

Medical: In certain cases of cirrhosis with impaired liver function, improvement in the general condition of the patient and elimination of esophageal bleeding may result from a high protein, high carbohydrate diet with large doses of vitamin B complex. In cases which respond to this treatment, the improvement of the condition of the liver is thought to lessen the obstruction of the portal blood flow and also to correct the deficient clotting mechanism of the blood by restoring the prothrombin concentration to normal.

Shunt or "By-Pass" Operations: Patients with esophageal varices resulting from cirrhosis of the liver who have adequate liver function or who have failed to respond to medical therapy, or patients with esophageal varices caused by thrombosis of portions of the portal system, may be treated by some type of operation which will permit the portal blood to return to the heart by a new channel which by-passes the obstruction in the liver or the thrombosed portions of the portal system. The Talma omentopexy attempts to utilize this principle by placing the omentum in intimate contact with the muscles of the abdominal wall with the hope of establishing a spontaneous anastomosis of the veins of the portal system in the omentum with the systemic veins in the rectus muscle.

Although this operation is still employed, usually as a last resort, the results are so uniformly poor that it seems certain to be replaced by more direct procedures which have recently been employed by Blakemore, Whipple, Lord and Blalock. These workers have by-passed the point of obstruction by anastomosing the portal vein to the inferior vena cava, or in certain types of portal thrombosis by anastomosing the splenic vein to the renal vein, in either case allowing the blood in the blocked portal system to flow freely into the inferior vena cava.

Excision Operation: Phemister has recently reported several patients with bleeding esophageal varices in whom arrest of the hemorrhage was obtained by excising the lower segment of the esophagus and anastomosing the remaining portion to the stomach after elevating the stomach through the diaphragm into the chest. In selected cases such a procedure may be indicated. Although the esophageal varices are effectively removed, this procedure does not affect the portal hypertension which may later evidence itself by other deleterious effects, such as bleeding in other parts of the gastrointestinal tract, or ascites. Splenectomy is indicated in a very few cases in which there is a block in the portal system distal to the point where venous blood from the spleen and from the esophagus merge. Splenectomy diminishes the amount of blood flowing through this segment of the portal system and will at times decrease the pressure in the esophageal veins.

Injections: Control of bleeding from esophageal varices has been obtained by obliterating the vessels with injection of a sclerosing solution through the esophagoscope. This procedure has not been widely used although in the hands of a skilled endoscopist it would seem to entail no more risk than some of the other procedures described. Such treatment again would not relieve the underlying portal hypertension and recurrence of the varices would seem to be probable.

Benign Strictures of the Esophagus: When corrosive solutions such as lye are swallowed, the damage to the mucosa and submucosa may lead to dense scar formation and constriction of the lumen of the esophagus. Adequate early treatment often prevents subsequent stricture.

If lye has been swallowed large quantities of water and demulcent liquids should be used to wash out thoroughly the mouth, esophagus and stomach. Gentle dilations are begun the next day with oiled

bougies or weighted rubber tubes and continued daily for a two-week period, three times a week for the next two weeks, once weekly for the following month, then monthly for a year. Thereafter the patient should be examined every six months and the esophagus dilated if necessary. In some cases more frequent dilations may be required in the later stages. After the active reaction from the burn has subsided, the patient may swallow satisfactorily for several weeks before the scarring is sufficient to produce obstruction. If the patients are not actively treated during and following the acute phase the incidence of the development of impermeable strictures is greatly increased.

In a certain number of cases, the damage to the esophageal wall is so extensive that an adequate lumen cannot be preserved and, if nutrition is to be maintained by mouth, the obstructed portion of the esophagus must be replaced by a new channel. Although numerous methods have been tried to accomplish this, at present none is entirely satisfactory. Recently several cases have been reported in which the obstructed portion of the esophagus has been removed and the cardiac end of the stomach freed, brought up into the chest, and anastomosed to the upper end of the esophagus. This procedure would at present seem to carry an unnecessarily high risk for the treatment of a benign condition.

Reconstructions performed on the anterior chest wall outside of the thorax involve less risk to the patient's life although they are usually prolonged procedures necessitating several different operations. Yudin in Russia has reported the largest series of successful antethoracic esophageal reconstructions performed by freeing a long piece of jejunum from its mesentery and leaving a single set of vessels parallel to the intestine to provide a blood supply to the loop. This piece of jejunum is passed up beneath the skin of the chest and anastomosed to the esophagus in the neck. Thus food that is swallowed passes into the upper esophagus and is then carried into the abdomen by way of this subcutaneous segment of jejunum.

One great disadvantage of this procedure has been that frequently it is not possible to free a sufficient length of jejunum to reach to the neck. To overcome this difficulty Longmire has presented a method of anastomosing the mesenteric blood vessels of the jejunum to the internal mammary blood vessels so that a long segment of intestine with an adequate blood supply can be freed. Longmire and Ravitch have devised a method of enclosing the jejunum, freed from its mesenteric blood supply, in a skin tube, and then moving the skin tube and contained jejunum up over the anterior chest wall. When in place the upper end is anastomosed to the esophagus and the lower end to the stomach. Another method which has been widely used is to construct all or a major portion of the new channel by a skin-lined tube formed on the anterior chest wall.

Cardiospasm: Cardiospasm is an interesting lesion of the esophagus, in which the structure is apparently normally formed but fails to empty its contents into the stomach properly because of an obstruction at the junction of the stomach and esophagus. The cause of the condition is not known but it seems to be related to an imbalance in the nerves governing the movements of the esophageal muscles, particularly those about the end which opens into the stomach. The esophagus may become greatly dilated and there is regurgitation, particularly at night, of food and liquids swallowed several hours previously. X-ray examination with the esophagus filled with barium will show a characteristic fusiform dilatation of the entire esophagus.

Treatment: Mild cases may be relieved by dilating the lower end of the esophagus with bougies or special distendable bags passed down through the mouth. In more severe cases satisfactory results have been obtained from enlarging the opening into the stomach by incising the lower end of the esophagus longitudinally and extending the incision through the cardiac sphincter into the stomach. The edges of the incision in the esophagus are sutured to the edges of the incision in the stomach so that the cardiac sphincter is left permanently divided and the esophageal opening is greatly enlarged.

Malignant Esophageal Lesions: The most frequent malignant lesion of the esophagus is a squamous cell carcinoma which arises from the mucous membrane lining. As the growth enlarges it slowly obstructs the lumen of the esophagus and produces increasing signs of dysphagia. Pain is a late symptom and is poorly localized. The condition is most frequently seen in males of the older age groups. A defect in the wall and lumen of the esophagus is seen in X-rays taken after the ingestion of a barium

meal; and the lesion may be seen and a biopsy specimen taken through the esophagoscope.

Treatment: Before operation the deficiencies of hydration and nutrition should be corrected as completely as possible, usually by intravenous supplements, occasionally by gastrostomy or enterostomy feedings.

The most widely used method of treatment at present is a one-stage partial excision of the esophagus, with anastomosis of the remaining oral segment of esophagus to the upper end of the stomach, which is freed from its abdominal attachment and brought up through the diaphragm into the chest. Phemister, Adams, Garlock, Sweet and Churchill have stressed this procedure and have been largely responsible for the present development of the operation.

A long incision is made in the posterolateral region of the left chest. The left lung is collapsed, the mediastinal pleura opened, and the growth identified. After the esophagus is freed above and below the growth the diaphragm is opened and the stomach extensively mobilized by freeing its attachments down to the pylorus. At a suitable level above the growth the esophagus is divided and the distal portion down to the stomach, including the neoplasm, is removed. The upper portion of the stomach is then brought up through the diaphragm into the chest and anastomosed to the upper esophageal segment. If the neoplasm is in the upper fourth of the esophagus it is often impossible to bring the stomach high enough into the chest to perform a suitable anastomosis with the oral esophageal segment. In such cases it is necessary after removal of the neoplasm to bring the end of the esophagus to the outside through an incision in the neck, to perform a gastrostomy through which feedings may be given, and at a later date to attempt some type of antethoracic esophageal reconstruction. This method of exteriorizing the oral esophageal segment after excision of the carcinoma is known as the Torek operation. It is used much less frequently at present than it has been in the past.

If metastases are present or adjacent structures have been involved by the neoplasm some temporary relief may be afforded by performing a gastrostomy. The desirability of such a procedure, however, depends upon the circumstances of the individual case.

Foreign Bodies: Children frequently swallow loose objects which may become lodged in the esophagus. Expression of saliva from a neck wound regurgitated or will pass spontaneously into the stomach after the child has been sedated. Sharp objects, however, should be immediately removed by an expert endoscopist to prevent perforation of the esophagus.

Wounds of the Esophagus: Stab wounds, bullet wounds, and perforations of the esophagus from within should be explored and closed without delay. The diagnosis of such injuries may at times be difficult. The direction of the tract of the penetrating object may be helpful particularly in the neck. The spitting up of blood following a neck wound is indicative of an injury of the trachea or esophagus. Rounded foreign bodies will usually be after swallowing is, of course, conclusive evidence of esophageal perforation. Esophagoscopy and at times roentgenography after a swallow of barium mixture may be indicated to diagnose a perforation of the thoracic esophagus. If the wound or perforation has occurred several hours previously and infection of the mediastinum or neck has already developed, the area should be drained without attempting to close the opening. The technique for exploration will, of course, depend upon the site of perforation. In the neck the esophagus is approached through an incision anterior to the sternomastoid muscle. The thoracic portion of the esophagus is explored through a posterior extrapleural incision, on the right for lesions of the upper third, and on the left for the lower injuries. If there is evidence that the pleural cavity has also been contaminated by the perforation, a transpleural exploration may be performed through the affected side.

Postoperatively these patients are treated vigorously with penicillin and sulfonamides. Hydration and nutrition are maintained temporarily by intravenous fluids.

SUMMARY

A brief review of several of the most common esophageal lesions has been given with a discussion of their diagnosis and treatment.

601 North Broadway.

INFLUENZA VIRUS VACCINE, TYPES A AND B
Experience with it in Cold Prevention

WYNDHAM B. BLANTON, M.D.,
and
ADNEY K. SUTPHIN, M.D.
Richmond, Virginia.

It is now generally conceded that influenza, characterized by sudden onset, chills, fever, aches, and prostration, is a virus disease. Virus A and Virus B are the types so far isolated. Other types undoubtedly occur. Influenza may appear sporadically, epidemically or pandemically. It has been claimed that each type has a periodicity of its own, the cycle for Virus A being regarded as two years, that for Virus B from four to six years.[1] The common cold, characterized by rhinorrhea, catarrh, slight fever and constitutional disturbances, has also been shown to be due to a virus.[2] This virus is not regarded as the same as that which causes influenza. Acute non-virus rhinopharyngitis, precipitated by exposure to cold or wet, or caused by chemical irritants or the common flora of the upper respiratory tract (streptococci, staphylococci, pneumococci, etc.) may closely mimic the symptoms and signs of the common cold. Allergic coryza, the early stages of measles, as well as the early stages of other acute infections, all have to be distinguished from the common cold.

In the prophylaxis, from the immunologic point of view, of this group of acute upper respiratory diseases we have to consider the two known viruses of influenza, the x-virus of the common cold, and the bacterial agents which are not only capable of producing symptoms often indistinguishable from the common cold but are also as secondary invaders capable of causing such disabling diseases as sinusitis, otitis, bronchitis, and pneumonia.[3]

The evidence is convincing that vaccination against influenza in epidemic form is effective in protecting a considerable percentage of those vaccinated. The Influenza Commission reported[4] in 1944 in a study of 12,500 persons that the vaccine exerted "a protective effect with a total attack rate of 2.22 per cent among 6,263 vaccinated and 7.11 per cent among 6,211 controls, a rate of 1 to 3.2."

The purpose of this study was to determine, if possible, whether or not in a selected civilian group a stock influenza virus vaccine of Types A and B could influence the number and severity of the whole group of acute upper respiratory infections. No epidemic of influenza occurred in Virginia in 1946 or in 1947, the years during which this investigation was conducted. There was, however, the usual increase in attack rate during the winter months, the peak coming in January in 1946 and in April in 1947. It is agreed that the average person has a little more than two colds a year. In Virginia, with a population close to three million, the annual number of colds must be around six million. In contrast the reported number of cases of influenza was relatively small during both 1946 and 1947. The total number of cases during the first year was 24,305, during the second year 35,088. Since the incidence of the common cold during the period of study was at least 240 times that of influenza it is felt that the effect, if any, of the virus vaccine used might be considered due to its influence on the causative agent of the common cold rather than on the virus of influenza.

In the fall of 1946 two groups were assembled for this study. The first consisted of 1,160 industrial workers, two-thirds of whom were women. The men were chiefly employed out-of-doors, the women worked indoors. The second group consisted of approximately 200 college students, about half of whom were women. Each person was asked if he or she had ever had asthma or was sensitive to eggs,[5] and those answering in the affirmative were excluded from the study. Each was questioned with reference to the frequency of upper respiratory infections and the answers recorded as "none," "few" or "many." Each was also questioned* with reference to the severity of his infections and the answers were recorded as "mild," "moderate" or "severe." One c.c. of a standard influenza virus vaccine for Types A and B was given to each, and after 24 hours the reactions were noted. One year

*No attempt was made to determine the exact number of colds each person experienced. We felt that few persons, asked "How many colds did you have last year?" could give an answer of any statistical value.

later the questionnaire was completed when the same questions were asked with reference to frequency and severity of respiratory infections during the year 1946-1947, the 12-month period following vaccination. Due to the turnover in industry, graduations from college and other uncontrollable circumstances, the original group of nearly 1,400 was finally reduced to 691. This report is concerned with an analysis of the answers given by this smaller group.

REACTIONS

Local reactions were recorded in 62 per cent of the subjects inoculated. Mild general reactions (malaise and achiness) were experienced by 33 per cent. Severe reactions (severe headache, chills, and temperature above 101° F.) were complained of by 3 per cent. All of the vaccine was supplied by one firm, but lots bearing four different serial numbers were employed. There was a noticeable variation in the reaction to the several lots: 73 per cent of local reactions to one lot against 45 per cent of local reactions to all others; and 3.7 per cent severe general reactions to one lot against 1.5 per cent reactions to all the other lots.

TABLE I—REACTIONS

REACTION		NUMBER	PERCENTAGE
No reaction		226	32.69
Local		429	62.08
Systemic	mild*	227	32.83
	severe**	20	2.89

*Malaise, aches. **Temp. 101° F., severe headache, chills.

RESULTS

Of the total group of 691 answering both questionnaires, 315 (45 per cent) reported no noticeable effect of the vaccine upon the number and severity of their colds. When asked to compare the twelve months experience following inoculation with the previous twelve months, a group of 185 (27 per cent) considered that their colds had been fewer and milder, whereas 172 (25 per cent) considered that their colds had been worse and more frequent. Only 19 failed to report. From such figures one would hesitate to say that influenza virus vaccine had influenced the incidence of the common cold one way or another, and in this respect they are to be compared with the experience of Cowan and Diehl[6] whose studies were made in Minnesota in the same year that ours were made in Virginia.

Another approach to the problem was made by an analysis of absenteeism due to acute upper respiratory infections following vaccination in contrast to absenteeism due to the same cause for an equal period during the cold season of the previous year. In as much as the experience of the company, whose 1,160 employees formed a part of this study, indicated that the majority of the cases of acute upper respiratory infection lasted less than eight days, a comparison of the incidental absences of less than eight days duration attributable to upper respiratory infection for the months of January and February, 1946, and 1947, respectively, was made. A tabulation of these results shows that the days lost per employee in January, 1946, was .31 against .19 for the same month in 1947. In February, 1946, days lost per employee were .19; in 1947, .12. For the two months combined they were, in 1946, .25, and in 1947, .15. Virginia vital statistics for the winters of 1946 and 1947 show that the total number of respiratory infections was approximately the same.

TABLE II—RESULTS OF IMMUNIZATIONS

RESULT	NUMBER	PERCENTAGE
No effect	315	45.55
Better after vaccine	185	26.17
Worse after vaccine	172	24.89
No Report	19	2.74
Total	691	99.95

When a tabulation is made to express the extent of participation of all male employees in the study, we find that only 810* out of 1,476 (54 per cent) received the vaccine.

TABLE III—DAYS LOST PER EMPLOYEE

DISTRICT	JANUARY		FEBRUARY	
	1946	1947	1946	1947
Lynchburg	.46	.33	.10	.15
Norfolk	.19	.13	.16	.16
Richmond	.28	.13	.18	.10
Roanoke	.31	.19	.32	.08
Total	.31	.19	.19	.12

From the tables it is to be observed that the greatest reduction in the incidence of respiratory infection occurred in the two cities with the lowest percentage of participation. In this same group it is to be noted that during January and February, 1947, of 209 cases of incidental absence attributable

*Of these 810 male employees of the company receiving influenza virus vaccine only 227 are included in our questionnaire.

to acute respiratory diseases, 100 had been given influenza virus vaccine.

TABLE IV—AVERAGE NUMBER EMPLOYEES

District	Employees Vaccinated	January and February 1947	Percentage of Participation
Lynchburg	175	250	70
Norfolk	307	518	59
Richmond	227	464	49
Roanoke	101	244	41
Total	810	1,476	54

SUMMARY AND CONCLUSIONS

1. Approximately 1,400 industrial workers and college students in Richmond were given 1 c.c. of influenza virus vaccine in the fall of 1946.

2. An additional 583 male employees of the same company received the vaccine elsewhere in the State.

3. No epidemic of influenza occurred in Virginia during the period of study.

4. No convincing evidence was obtained to show that the common cold is affected by this type of vaccine.

BIBLIOGRAPHY

1. Francis, T., Jr., *et al:* "Protective Effect of Vaccination Against Epidemic Influenza." *J.A.M.A.* **124**: 928, 1944.
2. Dochez, A. R.: "A Study of Common Cold and Influenza." Transactions American Clin. and Climat. Assoc. **52**:182, 1946.
3. McGee, L. C., *et al:* "Cold Vaccine and the Incidence of the Common Cold." *J.A.M.A.* **124**:555, 1944.
4. "Clinical Evaluation of Vaccination Against Influenza." Report of Influenza Commission: *J.A.M.A.* **124**:982, 1944.
5. Ratner, B., and Untrecht, S.: "Allergy to Virus and Rickettsial Vaccines." *J.A.M.A.* **132**:899, 1946.
6. Cowan, D. W., and Diehl, H. S.: "Cold Prevention Study." Minnesota Med. **31**:504, 1948.

828 West Franklin Street

A New Slant on Movies.

Announcement has just been made of a motion picture producer who is publishing a booklet describing how to prepare your film before sending it to a recording studio to have it converted from a silent to a sound version. This booklet furnishes simplified footage scale charts, lay-out for the preparation of your script and other important information.

All 16 mm film, whether photographed at 8, 16, 24 or 64 frames per second, is adaptable to sound. After the film, whether black and white or color, is prepared, a high fidelity sound track can be placed on your film by this producer for a very nominal fee.

These booklets, #9222 entitled "Make Your Movies Talk", can be obtained without charge by writing The C. Lawrence Walsh and Company, 801 Brighton Road, Pittsburgh 12, Pennsylvania.

ANNOUNCEMENTS

The Tissue Diagnostic Service.

Effective last April 1, the Bureau of Cancer Control of the State Health Department announced organization of a tissue diagnostic service. Through the joint efforts of the Virginia Society of Clinical Pathologists, the Cancer Committee of the Medical Society of Virginia, and Dr. Mason Romaine, Director of the State Bureau, a satisfactory plan was worked out whereby all Virginia physicians could obtain, without charge, pathological service for their medically indigent patients. The same service is offered to hospitalized patients who are medically indigent, provided they are in a hospital where there is no indigent service.

The chief purpose of the program is to make it practical for physicians to obtain biopsy specimens routinely, regardless of the financial status of the patient.

The pathology departments of the two State medical schools and the Virginia Diplomates of the American Board of Pathology are participating in the program. The addresses of the various pathologists and specimen containers for mailing were mailed by Dr. Romaine to every physician in the State. Specimens are sent directly to whichever pathologist the physician selects. Additional containers may be obtained from the Bureau of Cancer Control, State Health Department, Richmond.

The same service is in wide use in a number of other states. During the period from April 1 to June 30, participating pathologists in this State received only 65 specimens! Obviously, most physicians have overlooked the existence of this new service which is of potentially tremendous value.

GEORGE COOPER, JR., M.D.,
Chairman, Cancer Committee, M.S.V.

The Practical Nurse.

The Licensed Practical Nurse is a person trained to care for subacute, convalescent, and chronic patients requiring nursing services at home or in institutions, who work under the direction of a licensed physician or a registered professional nurse, and who is prepared to give household assistance when necessary. A practical nurse may be employed by physicians, hospitals, custodial homes, public health agencies, industries, or by the lay public. The definition suggests specific controls and limitations of practical nurse activities, establishes relationship with the physician and the professional nurse and implies that patient care comes first and that care of the home is justified only to the extent that it is necessary to insure the patient peace of mind and desirable home conditions.

Since the law providing for the licensure of practical nurses in Virginia became effective, June 1946, a total of 2,725 practical nurses have been licensed. Of this number, 2,624 were licensed under the waiver, 95 have completed the twelve months' course in one of the several practical nurses schools in the State and were licensed by examination.

The new insignia, designed by the Practical Nurse Association of Virginia, will be worn by all licensed Practical Nurses, with the approval of the Virginia State Board of Nurse Examiners. These insignias are to be worn on the left sleeve three (3) inches from shoulder seam, and a smaller replica to be worn on the approved cap in center of fold that turns back and near the outer edge.

The licensed practical nurse in most parts of Virginia is receiving three-fourths the salary of the registered professional nurse.

The Practical Nurse Association of Virginia has as its president, Mrs. Alice S. Nelson, Richmond, and the following areas have been organized throughout the state: Mrs. Ann Gray Judkins, Area 1, Bristol; Mrs. James Lowe, Area 2, Roanoke; Miss Katherine Lewis, Area 3, Lynchburg; Mrs. Thelma Wallace, Area 4, Norfolk; Mrs. Margaret Baird, Area 5, Richmond; Mrs. Mable Setliff, Area 6, Danville; Mrs. Edith H. Bibb, Area 7, Charlottesville; Mrs. Mary S. Pitts, Area 8, Fredericksburg; Mrs. Catherine H. Faircloth, Area 10, Newport News; Mrs. Osa Moser, Area 12, Winchester.

The Colored Practical Nurse Association of Virginia has as its president, Mrs. Edwina G. Barnett, of Norfolk, and has organized the following local clubs: Mrs. Helen Parks, Local President, Richmond; Mrs. Boone, Local President, Norfolk; Miss Ethel Jackson, Local President, Petersburg.

Medicine of the Year.

The *Medical Society of Virginia* has made arrangements to secure, through its Journal, MEDI-

CINE OF THE YEAR for those of its members who wish to subscribe. MEDICINE OF THE YEAR is an annual review of medical progress which will appear as a supplement to the Journal early in 1949. It will be a descriptive and analytical account of progress in medical science and practice during the preceding year, presented in a practical, useful, and informative manner, particularly as they relate to the everyday practice of general medicine and the specialties.

The editorial management is under the direction of Dr. John B. Youmans, Dean, College of Medicine, University of Illinois. The principal contributors and their subjects are the following well-known medical educators and writers:

INTERNAL MEDICINE—Dr. Hugh J. Morgan, Professor of Medicine, Vanderbilt University, Nashville.

OBSTETRICS—Dr. Frank Whitacre, Professor of Obstetrics and Gynecology, Memphis.

PEDIATRICS—Dr. Henry G. Poncher, Professor of Pediatrics, University of Illinois, Chicago.

SURGERY—Dr. Warren H. Cole, Professor of Surgery, University of Illinois, Chicago.

These men will have associated with them an equally competent and distinguished group of authors in special fields.

This annual review of medical progress is being offered to members of state medical societies and subscribers to state medical journals. The subscription price is $1.60 annually. In order to secure this service, subscriptions from approximately one-third of our members and subscribers is required. Because of the short time available, subscriptions must be entered promptly. DO NOT DELAY. Send in the coupon below, or write directly, sending check or money order. If an insufficient number of subscriptions is obtained, no obligation will be incurred and your money will be refunded. ACT NOW.

Please enter my subscription to MEDICINE OF THE YEAR.

I enclose check or money order for_____.

It is my understanding that if the number of subscriptions is insufficient to warrant publication, I incur no obligation and my money will be refunded.

Name _____

Address _____

_____

BOOK ANNOUNCEMENTS

Successful Marriage. An Authoritative Guide to Problems Related to Marriage from the Beginning of Sexual Attraction to Matrimony and The Successful Rearing of a Family. Edited by MORRIS FISHBEIN, M.D., Editor, Journal of the American Medical Association and Hygeia. And ERNEST W. BURGESS, Ph.D., Professor and Chairman, Department of Sociology, University of Chicago. 1947. Doubleday and Company, Inc., Garden City, N. Y. xxi-547.

This is a very complete handbook for counsellors, physicians, lawyers, clergymen and all others interested in successful marriage. There are chapters by thirty-eight authors and every aspect of marriage from "How can you tell if it is love?" to education and family life. The difference between love and infatuation is that love endureth. It is like telling a patient who is forty miles from the hospital of her choice, the difference between true and false labor pains. If the pains are true, they will keep up until she has the baby. If they are false they will die down after a while.

Divorce rate is a major social problem. In 1945 there was one divorce for every three marriages. This increase in the instability of marriage according to Dr. Burgess is due to: (1) urbanization, (2) individualism, (3) emancipation of women, (4) secularization of life, and (5) the growing conception of marriage as a companionship. The statistics of successful marriage show that when the parents of both bride and groom are happy a high proportion of the marriages of the young people are happy. Many friends and memberships in organizations are favorable factors. The higher the formal education, the greater the likelihood of adjustment in marriage. The better record that the person has in his church and Sunday school the higher his chance of making a successful marriage. Happiness in marriage comes most frequently to people in those occupations that have a moderate but stable income, that require considerable educational preparation and that are lacking in mobility.

The technic of marriage relations it seems to me is unnecessarily complicated, but then some folks like it that way just as some people like a lot of forks and spoons beside their plate at dinner. Dr. Rice's chapter on health and hygiene of marriage is especially sensible. I like his illustration about the relationship of sexual intercourse to other objectives of marriage. "Let us suppose that a man

is building a new house in which he expects to live. In the beginning he is enormously interested in the digging of the foundation and visits the site twice a day to observe progress. This foundation seems most important as indeed it is. It even seems most fascinating as indeed it might be. Later as the house progresses he transfers his interests to the other parts of the building and finally upon its completion, he moves into it and lives in it with no further thoughts for the foundation. This is as it should be unless one strangely prefers to live one's whole life in the basement as so many do, speaking sexually. We repeat that the basement of the house is important and that sexual intercourse which is the foundation of happy married life is important but it is not the whole of the house or of marriage."

M. P. R.

Preoperative and Postoperative Care of Surgical Patients. By HUGH C. ILGENFRITZ, A.B., M.D., F.A.C.S., Formerly assistant professor of surgery, Louisiana State University School of Medicine; Visiting surgeon, Charity Hospital of Louisiana at New Orleans, with Foreword by URBAN MAES, M.D., D.Sc., F.A.C.S., Emeritus professor of surgery, Louisiana State University School of Medicine; etc. St. Louis, The C. V. Mosby Company. 1948. 898 pages. 110 illustrations. Cloth. Price $10.00.

This text deals with preoperative and postoperative care in a thorough and readable manner. It is clear and concise and is perhaps best characterized by saying that its factual statements are immediately authenticated by physiological explanations.

The author does not see fit to confine himself strictly to the subject stated in the title. The format involves comprehensive chapters on Fluid and Electrolyte Balance, Metabolism and Nutrition, Organic Diseases and Chemotherapeutic and Antibiotic Drugs, in addition to general preoperative and postoperative measures. A detailed account of the measures used in specific surgical procedures is the chief component of the work.

The book suffers from an insufficient number and quality of illustrations. There is approximately one figure to each eight pages of text. One-third of the illustrations are contained in an appendix and are chiefly photographs of the various types of infusion and transfusion equipment in somewhat irrelevant detail. The loss of clarity is compensated in part by the unusual clarity of text.

The section on burns is an excellent resumé of modern thought on the pathological physiology and therapy of thermal injury. The section on acid base balance contains an eminently understandable and workable concept of this subject.

The type is large and clear, and the paper is of good quality.

This work shows many evidences of extensive research in the literature and is executed with thoroughness. It can be recommended to surgeons and surgical house officers without hesitation. It offers the medical student a good source for collateral reading during his surgical studies.

B. W. HAYNES, JR.

Occupational Therapy Source Book. Edited by SIDNEY LICHT, M.D. With an introduction by C. CHARLES BURLINGAME, M.D. Baltimore, The William & Wilkins Company. 1948. vii-90 pages. Cloth. Price $1.00.

This source book shows that the principles of Occupational Therapy are as old as psychiatry as a science and that Occupational Therapy must be traced back to those early and heroic days when Philippe Pinel liberated the mentally ill from his chains and opened the road to a rational treatment of insanity. Nothing better could be offered to the student of Occupational Therapy than the reading of those chapters of the History of Psychiatry in which, as in those re-printed in this book, the necessity, the indications and the methods of Occupational Therapy were laid down by outstanding psychiatrists such as Pinel, J. Chr. Reil, Benjamin Rush, Esquirol and others. This book, of equal interest to the historian and to the psychiatrist, should even be recommended to medical students.

W. R.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for October 1948, as compared with the same month in 1947, and for the period of January through October 1948 compared with the same period in 1947, is as follows:

	Oct. 1948	Oct. 1947	Jan.-Oct. 1948	Jan.-Oct. 1947
Typhoid and Paratyphoid	12	34	122	131
Diarrhea and Dysentery	617	401	3,934	4,667
Measles	149	39	6,279	7,561
Scarlet Fever	78	66	717	1,002
Diphtheria	34	21	193	188
Poliomyelitis	102	40	518	154
Meningitis	4	8	74	91
Undulant Fever	4	2	73	63
Rocky Mountain Spotted Fever	4	4	63	66
Tularemia	3	1	48	47

BLIND SPOTS IN THE TAKING OF POLIOMYELITIS HISTORIES

At the date of this report, November 9, 1948, 538 cases of poliomyelitis have been reported in Virginia for the year 1948. The mortality in this group has been 21 or 3.9%. Unfortunately, there is still a lack of knowledge of the definitive epidemiology of the disease. Theories regarding its epidemiology have been drawn from inference and not from laboratory findings. This lack of knowledge on the part of physicians and health officials tends to increase the public fear and makes difficult the efforts of physicians and public health workers to institute intelligent control measures.

The following observations are generally accepted:

1. Epidemic poliomyelitis is essentially a disease of the temperate zone.
2. Reported cases usually reach their peak in late summer and fall.
3. Infection spreads in a wave-like manner.
4. The etiological cause is a neurotropic filterable virus.
5. Infected persons are an important reservoir of infection with the relative role of cases and carriers not yet determined.
6. The virus has been demonstrated in respiratory and intestinal discharges.
7. The role of contaminated food, milk, water, and insect vectors has not been determined.
8. The disease is relatively more severe among persons with recent tonsillectomy.
9. No proven value has resulted from the closing of schools as a control measure.

Admittedly, epidemiological investigation to date has had little demonstrable value as a control measure. Yet, nobody would deny the importance of seeking further light through such investigation. In a day when smallpox was an accepted scourge, killing a third and scarring the rest of the population contracting it, Jenner used his powers of observation and deduction, and as a result, vaccination against smallpox was developed. It is therefore essential that physicians continue to study exhaustively their cases of poliomyelitis and suspected poliomyelitis. Such investigation should cover:

1. Contacts of the case with mild febrile disturbances in the family or neighborhood. Abortive cases are numerous and should be treated with great care.
2. Unusual grouping of cases—milk routes—contacts at a party.
3. History of relatives with known poliomyelitis or crippling of undetermined cause.
4. Record of travel of patient and household contacts during the period before onset.
5. Sources of food supply of family.
6. Recent swimming contacts.

In a preliminary review of case histories of poliomyelitis hospitalized in Virginia, approximately 200 of the 538 cases have been studied. It has been disappointing to find how inadequate, in most cases non-existent, the material was to be found in case histories in regard to the epidemiology of the disease. Even where there was a complete history of signs and symptoms of acute onset, there had been apparently no effort to obtain contact history or the familial and environmental circumstances under which the patient became sick. In cases where the parent did not accompany the patient to the hospital, this oversight is understandable, but in the others, it must be attributed to a lack of appreciation of the importance of epidemiology of the disease. This condition poses a challenge to the departments of medicine in our medical schools in training students. If we do not know how a disease is spread, the least we can do is to maintain the attitude of continuing curiosity.

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

An editorial written by Mr. Virginius Dabney of the *Richmond-Times Dispatch,* Wednesday, November 6, appears to be so significant that it is quoted in full below.

Family Doctors as "Civil Servants".

"Compulsory Federal health insurance legislation, favored by the President, may encounter stiff opposition in Congress. At the Eightieth session, many legislators appeared to prefer an alternative proposed by Senator Taft—to provide Federal grants to States for improvement of hospital facilities and extension of medical care.

"The relationship between family doctor and patient is part of our mores, not merely a professional relationship. Before a 'socially minded' Congress is tempted to tamper with it, it would do well to scrutinize the results of 'socialized medicine' as established by England's Laborite government.

"Reports from London tell us that British doctors, under the scheme which has now been in effect for more than four months, are 'underpaid and overworked'. During their usual Summer lull, doctors were swamped with 'taxpayers' demands for treatment of minor ailments, cut fingers, insect bites and mild colds, such as are normally treated at home. As many as 70 cases at one sitting were reported by family practitioners.

"Thanks to socialized medicine, British doctors have been 'demoted' from their standing as professional men of science to mere 'civil servants'—to be ordered around by the 'we wants our bleddy rights' type of cockney.

"Worst of all, with so much of their time taken up by minor or imaginary cases, there is less time for patients most in need of unhurried diagnosis and leisurely consultation.

"What is actually happening is that the normal relationship between doctor and patient is being 'desocialized' by socialization. The doctor's personal interest in the patient as an individual, as a human being, is wearing thin under the friction of cumbersome bureaucratic procedure.

"In one instance, cited by a correspondent for *Time* magazine, four insolent roughnecks confronted a doctor on his return to his office after a difficult ten-hour delivery, and informed him profanely that 'he had no right to be away from his office during working hours!'

"Not only patients, but the doctors themselves are losing their tempers. You can't preserve professional serenity when you're rushed to death. Neither can you take a cup of tea with an anxious parent or a worried wife—not with an impatient 'queue' forming at your office.

"A report stressing the evils of this social upheaval has been submitted to the powers-that-be by the British Medical Association. But it is doubtful whether Laborite statesmen will be big enough to admit failure and restore the profession to private status. 'Socialized medicine' was one of the Utopian baits which hooked the voters in the post-war elections. To confess failure in one phase of the socialist program might plant the seed of doubt in people's minds as to the feasibility of the entire Laborite philosophy.

"Under these circumstances, there is little inducement for brilliant young men to study and practice medicine, a segment of bureaucracy in which they are robbed of individuality and the public respect due them. Only the mediocre, the perfunctory, will be willing to pay that price for the 'security' of the civil servant. The tendency will be to give as little as possible of themselves for what they 'get out of it.' Hardly the motive to maintain the high ethics of a profession whose standards are often liberally a matter of life and death.

"It is a dreary prospect of straightjacketed life for England. It could happen here, not as suddenly perhaps as over there, but gradually, through stepping-stone legislation, with outright 'socialization' of medicine as the ultimate goal of the 'socially minded' reformers."

Perhaps many editors in the state could be interested in giving their views on the subject in a similar manner.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—Mrs. R. M. Reynolds, Norfolk
President-Elect—Mrs. C. E. Holderby, Hilton Village
Recording Secretary—Mrs. T. S. Chalkley, Richmond
Corresponding Secretary—Mrs. Charles Lupton, Norfolk
Treasurer—Mrs. Reuben Simms, Richmond
Parliamentarian—Mrs. H. W. Rogers, Norfolk
Historian—Mrs. M. H. Harris, West Point

Committee Chairmen.

The following have been named by Mrs. R. M. Reynolds, Norfolk, President of the State Auxiliary, as chairmen of committees for the coming year:

Hygeia—Mrs. E. Preston Titus, Alexandria
Legislation—Mrs. Powell Williams, Richmond
Organization—Mrs. J. L. DeCormis, Accomac
Publication—Mrs. Holland Trower, Eastville
Program—Mrs. Russell Buxton, Hampton
Public Relations—Mrs. Southgate Leigh, Norfolk
Revisions—Mrs. J. E. Hamner, Petersburg
Bulletin—Mrs. Herman W. Farber, Petersburg
Cancer Control—Mrs. C. T. Peirce, Nuttsville
Finance—Mrs. Paul Pearson, Warsaw
Leigh-Hodges-Wright Memorial—Mrs. Fletcher J. Wright, Jr., Petersburg

Northampton-Accomac.

Mrs. Oscar R. Fletcher, Sanford, was hostess to this Auxiliary at La Fonda on October 26th, with an attendance of eighteen. A delightful luncheon was followed by the business meeting, at which Mrs. S. K. Ames, retiring president, presided. Mrs. John R. Hamilton was directed to renew the gift subscriptions of *Hygeia* for the white and colored high schools of both counties. Mrs. John R. Mapp reported that the Tumor Clinic and Cancer Detection Center is soon to be established at the Northampton-Accomac Memorial Hospital. Mrs. J. L. DeCormis, retiring state president, and Mrs. W. J. Sturgis, Jr., gave reports on the recent state meeting held in Richmond. The following officers were then elected for the coming year: President, Mrs. W. J. Sturgis, Sr., Nassawadox; vice-president and president-elect, Mrs. G. L. Fosque, Onancock; secretary, Mrs. John Rogers Mapp, Nassawadox; and treasurer, Mrs. J. Fred Edmonds, Accomac. Mrs. E. W. P. Downing then read some poetry in honor of the retiring president, following which the meeting adjourned.

Catherine R. Trower (Mrs. Holland),
Chairman, Press and Publicity

Northern Neck.

The fall meeting of the Woman's Auxiliary to the Northern Neck Medical Society was held October 28th at Tides Inn, Irvington, with the president, Mrs. R. E. Booker, presiding. Mrs. W. H. Mathews, delegate to the state meeting, gave a fine and interesting report. Guest speakers at this time were Miss E. Orender of the Virginia State Nurses Association, Mr. Henry S. Johnson, Public Relations Director of the Medical Society of Virginia, and Dr. Richard Arnest, local Health Director. The following new officers were installed: President, Mrs. A. B. Gravatt, Jr., Kilmarnock; president-elect, Mrs. W. H. Mathews, White Stone; vice-president, Mrs. Motley Booker, Lottsburg; recording secretary, Mrs. Lee Liggan, Irvington; treasurer, Mrs. M. B. Lamberth, Kilmarnock; historian, Mrs. Paul Pearson, Warsaw; and parliamentarian, Mrs. R. E. Booker, Lottsburg.

At the conclusion of the meeting, the group enjoyed a delightful cruise on the *Suntan II*. At six thirty, a banquet was held in honor of the doctors and their wives.

Mrs. A. B. Gravatt, *President*

PROCEEDINGS

MEDICAL SOCIETY OF VIRGINIA
1948 ANNUAL MEETING
Richmond
October 18, 19 and 20, 1948

The Medical Society of Virginia held its 101st meeting in Richmond at the John Marshall Hotel, October 18, 19 and 20, under the presdency of Dr. Guy R. Fisher of Staunton. There was a registered attendance of eight hundred and fifty-six doctors, one hundred and fifty-six ladies, and ninety technical exhibitors—a total of 1,102. The Council held its meeting on Sunday afternoon, the 17th, with a meeting of the House of Delegates that evening. Alumni dinners, special society meetings and luncheons, and the banquet and entertainment on the 19th, added greatly to the enjoyment of those attending.

SCIENTIFIC SESSIONS
Monday, October 18

The first scientific session of the 1948 annual meeting of the Medical Society of Virginia was held in the Virginia Room of the Hotel John Marshall, Richmond, on Monday morning, October 18, 1948, beginning at nine o'clock. The President of the Society, Dr. Guy R. Fisher, of Staunton, called the meeting to order and presided.

The paper of Dr. Frank L. Apperly and M. Katharine Cary, A. B., of Richmond, entitled "The Control of Peripheral Circulatory Stasis by the Electrical Stimulation of Large Muscle Masses" (illustrated by a motion picture), was presented by Dr. Apperly and was discussed by Dr. I. A. Bigger, of Richmond. (No closing discussion.)

The paper of Drs. George Cooper, Jr., and Charles Frankel, of Charlottesville, on "Diagnosis and Treatment of Carpal Injuries" (illustrated by lantern slides), was read by Dr. Frankel and was discussed by Dr. Cooper and by Dr. George A. Duncan, of Norfolk. (Closing discussion not called for.)

The paper of Drs. Hugh H. Trout, Jr., and Horace A. Albertson, of Roanoke, entitled "Acute Pancreatitis", was read by Dr. Trout and was discussed by Dr. R. P. Bell, of Staunton, and Dr. J. Morrison Hutcheson, of Richmond, and in closing by Dr. Trout.

* * * *

PRESIDENT FISHER: As has always been the case with the Society, we have invited representatives of other organizations to our meeting. I shall now read their names, and if any of them are present I ask them to stand up.

VIRGINIA STATE DENTAL ASSOCIATION—Dr. W. H. Street, Dr. Harry Bear.

VIRGINIA PHARMACEUTICAL ASSOCIATION—Dr. R. Blackwell Smith, Mr. W. G. Tarrant, Jr., Mr. A. L. I. Winne, Mr. J. Curtis Nottingham.

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA—Dr. John A. Payne of Sunbury, Dr. Moir S. Martin of Mt. Airy (a member of MSV), Dr. E. W. Furgurson of Plymouth.

Gentlemen, we are right on schedule. The essayists have cooperated to the utmost, and we are running on time. This is the seventh inning, and we will take a few minutes to stretch and to visit the exhibits. There will be representatives at all of the exhibits, both the scientific and the commercial, who will be glad to talk with you and show you what they have. I now declare a fifteen-minute recess and I urge you to take the opportunity to visit the exhibits.

(Recess.)

Dr. Robert L. Bailey, Jr., of Richmond, read his paper entitled "Arteriosclerotic Heart Disease in Diabetics" (with lantern slides), which was discussed by Dr. J. Edwin Wood, Jr., Charlottesville; Dr. H. B. Mulholland, Charlottesville; and Dr. Wm. R. Jordan, Richmond; and by Dr. Bailey in closing.

PRESIDENT FISHER: Gentlemen, while this is fresh in your minds I should like to make an announcement. Tomorrow afternoon, immediately after the close of the scientific session, there will be a meeting in this room of individuals interested in the formation of a state diabetic association. Any physicians who are interested in the establishment of such an organization are urged to be here at that time—immediately after the afternoon meeting on Tuesday.

Dr. Homer E. Ferguson, Richmond, read his paper entitled "Recent Trend in Treatment of Obesity". This was discussed by Dr. Julian R. Beckwith, Clifton Forge. (No closing discussion.)

The paper of Drs. H. St. George Tucker, Jr., and William R. Kay, of Richmond, entitled "Nitrogen Mustard Treatment of Hodgkin's Disease" (illustrated by lantern slides), was read by Dr. Tucker. Dr. Byrd S. Leavell, Charlottesville, opened the discussion and was followed by Dr. J. Powell Williams, of Richmond, and Dr. Kay, with Dr. Tucker closing.

The morning program having been completed, the scientific session then adjourned for lunch.

Monday Afternoon Session

The Society convened in the Virginia Room and was called to order by President Fisher at 2:30 o'clock.

Dr. James B. Funkhouser, of Richmond, read his paper on "The Clinical Aspects of Electro-encephalography" (illustrated by lantern slides), which was discussed by Dr. I. S. Zfass, of Richmond. (No closing discussion.)

The paper of Drs. R. Finley Gayle, Jr., Claude L. Neale, and Thomas S. Cheek, of Richmond, entitled "Subshock Insulin Therapy in Anxiety States", was read by Dr. Neale. This was discussed by Dr. Daniel Chiles, of Radford; Dr. David C. Wilson, Charlottesville; and Dr. I. S. Zfass, of Richmond. Dr. Neale then closed the discussion.

Dr. David C. Wilson, Charlottesville, read the paper prepared by himself and Dr. Gordon C. G. Thomas, also of Charlottesville, on "The Recognition of Pre-Schizophrenic States" (illustrated by lantern slides). This was discussed by Dr. Howard R. Masters, Richmond, and Dr. Thomas. (No closing discussion.)

The next feature of the program was a panel discussion on Medical Care, with Dr. H. B. Mulholland, of Charlottesville, acting as moderator. The following papers were presented:

"The American Medical Association's Responsibility in the Problem of Medical Care", by Dr. Walter B. Martin, Norfolk.

"Rural Health", by Dr. Franklin Smith Crockett, of Lafayette, Indiana, Chairman of the Rural Health Committee of the American Medical Association (invited guest).

"Ten Commandments of Prepayment", by Mr. Thomas A. Hendricks, Chicago, Illinois, Secretary of the Council on Medical Service, American Medical Association.

(During the reading of these papers President Fisher turned the gavel over to Dr. Frank Farmer, Vice-President, as presiding officer.)

The papers on medical care were discussed by Dr. Ernest W. Furgurson, Plymouth, North Carolina; Dr. Martin; Dr. J. Paul Kent, Altavista; again by Dr. Martin; and by Dr. Mulholland.

The afternoon program having been completed, the Chairman declared the meeting adjourned.

Monday Evening—General Session

The first general session of the 1948 annual meeting was held in the Virginia Room of the Hotel John Marshall, beginning at eight o'clock, Monday evening, October 18, with Dr. Charles L. Outland, Richmond, Chairman of the Committee on Arrangements, presiding.

CHAIRMAN OUTLAND: It is my privilege to call to order the first general session of the one-hundred-and-first annual session of the Medical Society of Virginia. The first thing we want to find out is if there are any other past presidents in the audience who ought to be on the stage. We should like to fill these other chairs. If there are, will you please come up?

In addition to that, we want to know if you see anybody out there with a little golden badge on. If there are any, we should like to have them a little nearer to the front. So please come up. (Several members came forward. Applause.) I would have called you by name, but I did not want to embarrass you.

I am very sorry to have to announce that the Reverend Dr. Scherer, who seems almost like a medical doctor, due to an emergency—and I assure you it is a real emergency—has to be out of town. Dr. Scherer wanted me to express his regrets. We are very glad to have his associate, the Reverend Earl T. Knaus, to offer the invocation.

Invocation by the Reverend Mr. Knaus.

CHAIRMAN OUTLAND: We shall next have a welcome from the Richmond Academy of Medicine by its President, Dr. H. Hudnall Ware. Dr. Ware.

DR. H. HUDNALL WARE: Mayor King, President Fisher, Chairman Outland, boys of the fifty-year class, members of the Society, and guests, it is a pleasure and an honor to welcome you to Richmond for the annual meeting of the Medical Society of Virginia. Those of us who live in Richmond are very proud of our fine city, its hospitals, its medical school—the Medical College of Virginia, with which many of you have been associated. I want to thank you for bringing the 1948 annual meeting to Richmond. It will be a privilege for those of us who are physicians in Richmond to do anything we can to make your stay in our city a most enjoyable one. We hope you will have a pleasant visit and a most successful meeting.

CHAIRMAN OUTLAND: Thank you, Dr. Ware.

When your local committee started to work we were not just sure we would have a mayor. We do have one, however; and it is my privilege now to introduce to you the Honorable W. Stirling King, Mayor of the City of Richmond, who will give a message of greeting. Mayor King.

HON. W. STIRLING KING: Thank you, Dr. Outland.

Ladies and gentlemen, I feel that I could almost address you as colleagues. But, having been mayor only forty-five days, I am somewhat awed by your fifty years of experience; and I would that some of your knowledge could be transplanted to political life. Somewhat of a major operation was performed on the government of the City of Richmond. The patient seems to have survived and after a period of shock is convalescing.

There was a little thing that happened to me that might be interesting to you. After I had been in office twenty-four hours some irate citizen called me and said: "Are you supposed to be the Mayor of the City of Richmond?" I said: "Yes, ma'am, I am supposed to be." She said: "I had to wait thirty minutes on the corner this morning for a bus. What do you propose to do about it?" I replied: "Well, I had not thought of doing anything about it." The lady said: "Well, I am sorry I voted for you. You are just as bad as the last one." "Well," I said, "considering that he got $12,000 a year for doing nothing about it and I get $1,200 a year for doing nothing about it, I think we have made some progress."

Gentlemen, we are always delighted to have a group of professional people come to Richmond for a convention. We feel that Richmond is a city of culture and we feel very proud of it as a medical center. You know, the hotel people tell us that you are somewhat easier on

their furniture than some of the other gatherings they have; in fact, you might be proud to know that you are second only to ministers' conventions.

We are delighted to have you, and within certain limits the city is yours. We hope you will have a most pleasant and instructive meeting. We hear that there are only a few cities in the State that can accommodate a group as large as this, and if you have any trouble in finding a convention city in 1949 we hope you will come back.

CHAIRMAN OUTLAND: Thank you, Mayor King.

You will notice on the program, ladies and gentlemen, that we were to have an address by the Honorable William Munford Tuck, Governor of Virginia. The Governor has advised us that he cannot get here, due to an engagement he could not break.

It is now my pleasure and privilege to present to you your President, Dr. Guy Rothwell Fisher, of Staunton, President of the Medical Society of Virginia. Dr. Fisher.

DR. GUY ROTHWELL FISHER: Mr. Chairman, distinguished guests, honorable past presidents, the honorable gentlemen sitting in front of me, ladies and gentlemen, during this year the Council of the Medical Society of Virginia deemed it a fine gesture to award fifty-year certificates to the medical men in the State of Virginia who have practiced fifty years or more. Those awards will be made tonight. The men who have arrived at fifty years of practice will be known as members of the Fifty Year Club and will be exempted from dues for the remainder of their lives.

Strange as it may seem, it was found that there were 123 men in the State of Virginia who have practiced medicine fifty years or more. Tonight we have around fifty of them present.

I did not know until about six o'clock that I was to make this presentation, and this presentation is so tied in with the few remarks that I shall make tonight as your retiring president that I shall not go very deeply into any oration toward these men. But I do want to tell you gentlemen sitting in front of me that there is a peculiar nostalgic aura surrounding you on this occasion. In days long past you accepted the challenge, and now you see the consummation of a work well done. The dawn is past; you have gone across the arena of life; you have crossed over the hilltop and are approaching the setting sun. I know your lives have been so useful that no sunset that ever shed radiance upon our mountains seems so red as it does to you tonight. The doctors of Virginia, the Medical Society of Virginia, in fact the entire population of Virginia do you honor; we venerate your memory; and we hope you will have many, many more years with us. I hope that those of us who are younger—but not so much younger—and those who will follow after us will consider this as a gesture which will be perpetuated throughout the years. We want you to know that we who are here tonight will ever remember this occasion and that the memory of you will ever be sweet and will chime melodiously in future years.

It is now my pleasure to read the list of those doctors who have practiced fifty years or more. I will read the whole list first; and then, as I read the names again, the certificates will be awarded to those who are present.

Dr. Fisher read the list:

Lewis Mines Allen, Winchester.
Charles Rhodes Anderson, Winchester.
Joseph James Anderson, Richmond.
William Carthon Archer, Waynesboro.
Joseph Sidney Bachman, Bristol.
John Robert Bagby, Pulaski.
William Augustus Baker, Big Stone Gap.
Harry Lewis Baptist, Salisbury, N. C.
John Beattie, Norfolk.
Oliver F. Blankingship, Richmond.
Charles Armistead Blanton, Richmond.
Johannes Charles Bodow, Hopewell.
Philip Williams Boyd, Winchester.
Alexander Gustavus Brown, Jr., Richmond.
Edward W. Brown, Washington.
George Woodford Brown, Williamsburg.
James G. Brown, Woodville.
Matt Otey Burke, Richmond.
George Hopkins Carr, Portsmouth.
Charles Thomas Carter, Danville.
Garland H. Carter, Boydton.
Hugh Tucker Chelf, Culpeper.
Loren Eugene Cockrell, Reedville.
Robert Page Cooke, Lexington.
Robert Lawrence Corbell, Portsmouth.
Henry C. Corbett, Washington, D. C.
Hugh S. Cumming, Washington, D. C.
Ashley Phillip Cutchin, Franklin.
John Gibson Davis, Roanoke.
Arthur Hamilton Deekens, New Orleans, La.
Joseph Spencer DeJarnette, Staunton.
Roderick Dew, Woodford.
Thomas Welch Dew, Fredericksburg.
Fred Clifton Downey, Edinburg.
Edmund Wainhouse Poulson Downing, Franktown.
James H. Dunkley, Roanoke.
William Willcox Dunn, Richmond.
Charles Allen Easley, Sr., Blairs.
Charles Mundy Edwards, Richmond.
Lemuel Leslie Eley, Chuckatuck.
John B. Fisher, Midlothian.
John Francke Fox, Bluefield, W. Va.
Ramon David Garcin, Richmond.
William Tate Graham, Richmond.
Stanley Hope Graves, Norfolk.
Alfred Bryson Greiner, Rural Retreat.
R. Sumter Griffith, Waynesboro.
Lomax Gwathmey, Norfolk.
Mary Harley, Charlottesville.
William Lett Harris, Norfolk.
Isaac Carrington Harrison, Danville.
Walter Fitzgerald Hartman, Richmond.
James W. Dorsey Haynes, Mathews.
Halstead Shipman Hedges, Charlottesville.
Frank Hopkins, Hot Springs.
Benjamin A. Hord, Richmond.
Paul Williamson Howle, Richmond.
Thomas Jefferson Hughes, Roanoke.
Clarence Porter Jones, Newport News.
John Bolling Jones, Petersburg.
William Russell Jones, Richmond.
John Cephas King, Radford.
Marion Norwood King, Norfolk.
David M. Kipps, Front Royal.
Edward Pointer McGavock, Wytheville.
Hunter Holmes McGuire, Winchester.

Stuart McGuire, Richmond.
Thomas K. McKee, Saltville.
Henry Stuart MacLean, Richmond.
William Douglas Macon, Charlottesville.
D. Hunter Marrow, Boydton.
Richard Mason, The Plains.
Edgar Calvin LeRoy Miller, Richmond.
Roshier Welsh Miller, Richmond.
William H. F. Miller, Clifton Forge.
Philip St. Leger Moncure, Norfolk.
William Gerry Morgan, Washington, D. C.
Edward J. Moseley, Jr., Richmond.
Herbert Old, Philadelphia, Pa.
William Levi Old, London Bridge.
Joseph Dunn Osborne, Petersburg.
William Henry Parker, Richmond.
Henry Woodfin Phillips, Norfolk.
Robert Henley Pretlow, Suffolk.
William Daniel Prince, Stony Creek.
Charles Wesley Pritchett, Danville.
Benjamin Watkins Rawles, Richmond.
George Alley Renn, Norfolk.
James Franklin Repass, Wytheville.
William W. Robertson, Danville.
*Charles Russell Robins, Richmond.
Claude R. Robinson, Max Meadows.
Sidney M. Robinson, Woodlawn.
Lawrence Thomas Royster, Charlottesville.
Emily Chenault Runyon, Richmond.
H. Launcelot Segar, Warsaw.
George Lee Smith, Richmond.
H. Stuart Smyth, Meadow View.
Nash P. Snead, Cartersville.
Hack Urquhart Stephenson, Richmond.
Alvah Stone, Roanoke.
Robert Washington Sturgis, Norfolk.
Edgar Lemon Sutherland, Lynchburg.
Sidney Johnston Tabor, Portsmouth.
Robert Milton Taliaferro, Lynchburg.
Benjamin Harris Tatum, Clifton Forge.
Thomas K. Terrell, Lynchburg.
Edmund Pendleton Tompkins, Lexington.
Alexander Emmett Turman, Richmond.
John Brooks Tuttle, Craigsville.
Achilles Lyons Tynes, Staunton.
John Walker, Lynchburg.
Reuben Barnes Ware, Amherst.
Edmund Chitwood Watson, Roanoke.
Thomas P. West, Bedford.
William J. West, State Farm.
Charles Stanley White, Washington, D. C.
Walter Lewis Williams, Brookneal.
Frank Delaplaine Willis, Newport News.
Nicholas George Wilson, Norfolk.
John Franklin Woodward, Ivanhoe, N. C.
Richard H. Woolling, Pulaski.
Willis C. Yeatts, Danville.

As each man's name was called, he was handed his certificate.

Gentlemen, you may wear this certificate as a badge of honor. It is a thing that is tied up with our heart strings, and I know we shall always remember this occasion.

The certificates that have not been distributed tonight will be mailed.

Dr. Fisher then read his presidential address, "The Ideals of Medicine".

PRESIDENT FISHER: Ladies and gentlemen, we are indeed most fortunate tonight in having one of the most outstanding medical men in America as our guest speaker. To enumerate his accomplishments would take all night, for he is a great man. His grandfather came from Virginia, and that alone would account for some of his greatness. It is truly a great privilege and an honor, as well as a pleasure, to present to you who do know him and to introduce to those of you who do not know him, Dr. Byrl Raymond Kirklin, who is the head of the department of radiology of the celebrated Mayo Clinic and chairman of the American Board of Radiology. He will speak to you on a most timely subject: "Specialization—Its Advantages and Abuses". Dr. Kirklin.

DR. BYRL RAYMOND KIRKLIN: Mr. President, ladies and gentlemen, this is the second time that I have had the pleasure and the honor of addressing the Medical Society of Virginia. I feel sure that no member of your present program committee attended the meeting in Danville, when I last spoke, for otherwise I should not be here tonight.

Dr. Kirklin then read his prepared address.

The following is a list of members whose deaths had been reported since the last meeting:

Dr. Joseph Long Alexander, Staunton, December 16, 1947.
Dr. Jackson B. Anderson, McLean, October 21, 1946.
Dr. Joseph Bear, Richmond, August 28, 1948.
Dr. Edward G. Brumback, Luray, August 13, 1947.
Dr. Oliver Curry Brunk, Richmond, August 19, 1948.
Dr. Benjamin L. Carter, Blue Spring Run, December 7, 1947.
Dr. William T. Chitwood, Rocky Mount, November 2, 1947.
Dr. Alfred B. Claytor, Bedford City, January 9, 1948.
Dr. Harvie DeJarnette Coghill, Richmond, February 6, 1948.
Dr. Frank Hubert Crawford, Staunton, January 14, 1948.
Dr. Littleton Davis, Roanoke, January 14, 1948.
Dr. Benjamin Adoneram Doggett, February 27, 1948.
Dr. Bernard Heath Early, Esmont, November 10, 1947.
Dr. Edward L. W. Ferry, Millers Tavern, February 17, 1948.
Dr. Marshall Peterson Gordon, Richmond, May 10, 1948.
Dr. Edward A. Gorman, Alexandria, July 19, 1948.
Dr. Joseph Grice, Portsmouth, October 21, 1947.
Dr. James King Hall, Richmond, September 10, 1948.
Dr. Loring Hammer, Luray, November 23, 1947.
Dr. Charles P. Harshbarger, Port Republic, March 22, 1948.
Dr. Charles Cheves Haskell, Richmond, November 12, 1947.
Dr. Claude Gibson Hooten, Lynchburg, July 25, 1947.
Dr. J. Sinkler Irvine, Evington, May 30, 1948.
Dr. William Arthur Jeffress, Fairfield, July 20, 1948.
Dr. W. Dennis Kendig, Kenbridge, March 16, 1948.
Dr. J. Elwood Knight, Warrenton, December 30, 1947.
Dr. R. R. Lee, Martinsville, June 6, 1948.
Dr. E. H. Luck, Roanoke, May 10, 1948.
Dr. T. H. Massey, Smithfield, September 18, 1948.
Dr. J. B. Mears, Keller, November 16, 1947.
Dr. Perry W. Miles, Danville, February 21, 1948.
Dr. Frank John Miller, McGaheysville, April 13, 1947.
Dr. R. E. Mitchell, Richmond, February 20, 1948.
Dr. Robert Sterling Montgomery, South Hill, February 10, 1948.
Dr. Ernest Mosby, Waynesboro, January 29, 1948.
Dr. Rea Parker, Smithfield, August 2, 1948.

*Died two days before meeting.

Dr. William Lowndes Peple, Richmond, February 7, 1948.
Dr. R. L. Raiford, Franklin, June 25, 1948.
Dr. Julian L. Rawls, Norfolk, January 18, 1948.
Dr. Israel Karp Redd, Ellerson, August 21, 1948.
Dr. Julian M. Robinson, Danville, June 28, 1948.
Dr. Philip E. Rossiter, Avon, N. Y., April 30, 1948.
Dr. Joseph A. Rucker, Bedford, June 29, 1948.
Dr. Thomas Erle Rucker, Lynchburg, September 4, 1948.
Dr. Cornelius J. Seay, Scarsdale, N. Y., April 25, 1948.
Dr. Francis H. Smith, Abingdon, July 1, 1948.
Dr. Samuel Lewis Steer, Leesburg, March 30, 1948.
Dr. George H. Thomas, Staunton, August 5, 1947.
Dr. George Tully Vaughan, Washington, D. C., April 26, 1948.
Dr. Benjamin B. Warriner, San Antonio, Texas, March 6, 1948.
Dr. Elizabeth Collins Whitehead, Norfolk, November 27, 1947.
Dr. A. L. Wilson, Lynchburg, August 5, 1947.
Dr. John E. Womack, Staunton, January 7, 1948.
Dr. S. T. Yeatts, Floyd, April 27, 1948.

Adjournment.

Tuesday, October 19

The Medical Society of Virginia convened in scientific session in the Virginia Room of the Hotel John Marshall, at 9:00 o'clock a. m., with Dr. Frank Farmer, of Roanoke, Vice-President, presiding.

Dr. Duvahl B. Ridgway, Roanoke, read his paper entitled "Acute Thrombocytopenic Purpura Following Massive Hormone Therapy in a Pregnant Diabetic", which was discussed by Dr. William R. Jordan, Richmond. (No closing discussion.)

The paper of Drs. William H. Higgins, Jr., and Elam C. Toone, Jr., of Richmond, entitled "The Variable Clinical Manifestations of Sickle-Cell Anemia" (illustrated by lantern-slides), was read by Dr. Higgins. It was discussed by Dr. James P. Baker, White Sulphur Springs, West Virginia, and in closing by Dr. Toone.

(Recess to visit exhibits.)

The paper of Drs. C. C. Coleman, J. M. Meredith, and C. E. Troland, of Richmond, entitled "The Early Diagnosis of Brain Tumor" (illustrated by lantern slides), was read by Dr. Coleman. It was discussed by Dr. W. Gayle Crutchfield, Charlottesville, and in closing by Dr. Coleman.

Dr. Harry J. Warthen, Jr., Richmond, read his paper entitled "The Treatment of Malignant Melanoma" (illustrated by lantern slides), which was discussed by Dr. Robert Lee Payne, of Norfolk, and by Dr. Warthen in closing.

The program having been completed, the morning session adjourned at 11:30 a. m.

Tuesday Afternoon Session

The Society convened in the Virginia Room at 2:30 p. m., with President Fisher presiding.

Dr. Chester D. Bradley, Newport News, read his paper entitled "An Unusual Case of Hydrocephalus with Some Comments on Delivery" (illustrated by lantern slides). (No discussion.)

The paper of Dr. William B. McIlwaine, III, and Dr. Herman Farber, Petersburg, entitled "Meningitis in Infancy" (illustrated by lantern slides), was read by Dr. McIlwaine. This was discussed by Dr. Edwin L. Kendig, Jr. of Richmond, and Dr. H. O. Bell of Belleville, N. J., with Dr. McIlwaine closing the discussion.

The paper of Dr. Edwin E. Barksdale, Washington, D. C., and Dr. George S. Ellis, Lt. j.g., M.C., U.S.N., United States Naval Hospital, Bethesda, Maryland, entitled "The Use of the Antihistamine Drugs in Dermatology", was read by Dr. Ellis. Drs. Raymond D. Kimbrough, Richmond, Thomas W. Murrell, Richmond, and Oscar Swineford, Charlottesville, discussed the paper, with Dr. Barksdale closing.

Dr. Linwood D. Keyser, Roanoke, read his paper on "The Advantages and Limitations of Hormone Therapy in Benign and Malignant Prostatism" (illustrated by lantern slides), which was discussed by Dr. Samuel A. Vest, of Charlottesville, and by Dr. Keyser in closing.

The paper of Dr. Robert V. Terrell and Dr. C. C. Chewning, Jr., of Richmond, entitled "The Injection Treatment of Internal Hemorrhoids", was read by Dr. Terrell and was discussed by Dr. T. Neill Barnett, Richmond. (No closing discussion.)

The program having been completed, the afternoon session adjourned at 5:05 o'clock p. m.

Wednesday, October 20

The Society met in scientific session in the Virginia Room at 9:00 o'clock a. m. and was called to order by President Guy R. Fisher, who presided.

Dr. Elbyrne G. Gill, Roanoke, presented his paper on "Recent Advances in Cataract Surgery" (illustrated with lantern slides and moving picture). This was discussed by Dr. E. W. Burton, Charlottesville, and Dr. R. S. Faris, Richmond, and by Dr. Gill in closing.

The President introduced Miss Hazel Higbee, R. N., Director of the Bureau of Public Health Nursing of the Virginia State Department of Health; and Miss Higbee read a paper on "Nursing for the Future". This was discussed by Dr. _____, and by Miss Higbee in closing.

Dr. Charles S. White, Washington, D. C., read his paper entitled "Protein Deficiency in Surgical Practice", which was discussed by Dr. Charles M. Caravati, Richmond. (No closing discussion.)

The paper of Drs. George A. Welchons and John P. Lynch, Richmond, entitled "Spontaneous Hemo-pneumothorax" (illustrated by lantern slides), was read by Dr. Welchons. This was discussed by Dr. Lynch; Dr. J. R. Massie, Richmond; Dr. C. Lydon Harrell, Norfolk; and by Dr. Welchons in closing.

President Fisher presented Dr. Harrison Fitzgerald Flippin, Assistant Professor of Medicine and Dean of the Graduate School, University of Pennsylvania, who read his paper on "Recent Developments in Antibiotic and Sulfonamide Therapy" (illustrated by lantern slides).

Closing Session

PRESIDENT FISHER: Gentlemen, our meeting is rapidly drawing to a close. Numerically—from the standpoint of registrations, this has been the higgest meeting the Medical Society of Virginia has ever had; and I feel confident that without question the essays have been of the highest type we have ever had.

I want to thank you for placing me in this high position of trust, although I have served my term of office with inadequacy and with a very de p feeling of humility that transcends the egotism that I know some of you think I possess.

The Medical Society of Virginia has seen fit to select as its next president a man who is truly worthy of the honor. I should like at this time for Dr. Frank Johns and Dr. Charlie Outland to escort the President-Elect, Dr. M. Pierce Rucker, to the rostrum.

(Dr. Rucker was escorted to the front.)

Gentlemen, I want to present to you a former teacher, a respected and beloved friend of many years' duration, a renowned and skilled obstetrician, a marvelous churchman, a cultured and refined gentleman in every sense of the word. As I now remove my tattered cloak of imperfections I want to place upon his shoulders the mantle of authority, which he will carry so worthily throughout the year. Dr. Rucker.

DR. M. PIERCE RUCKER: Dr. Fisher, members of the Medical Society of Virginia, and guests, I wish I could tell you how much I appreciate this great honor. At times words are totally inadequate unless formulated by a genius. A Shakespeare, perhaps, or a Guy Fisher, could tell you how I feel at this time—puffed up with pride and with a warm feeling in my heart because of this mark of your esteem, but sobered by the thought of the great responsibility of this high office, and conscious of my inadequacy. I do promise, however, to be the best president I am capahle of being.

Medicine today faces a critical time. The International Labor Organization is bent on our having federalized medicine. We must present a united front. There are many things the American Medical Association does that do not meet with the approval of us all, hut now is not the time to stand off and criticise—now is the time to get in and work. Every doctor in the State of Virginia ought to belong to his local society, to his State Society, and to the American Medical Association; and one of the goals for this year will be to see if this can he brought about. Another goal will be to further the establishment of rural health councils. That has already been done in some communities, and when it is done all over the State these councils will be of inestimable value. There is plenty to do now that the hospital building program is under way. Besides that, there will be other advantages of such organizations. If this is done the legislative committee of your Society will have very little to do at the next legislature.

The third goal is to see that every citizen of Virginia has availahle a prepaid hospital and a prepaid medical plan.

The By-Laws and the Constitution, Article VII, Section 6, require that the president shall visit as many of the component societies of the State as possible during the year, in the interest of the State Society. This I propose to do, and I shall be glad if the secretaries of the local societies will keep me informed of the dates of their meetings.

Another article of the By-Laws provides that the incoming president shall name the members of each standing committee. The Council, on Monday, appointed me to succeed myself as chairman of the Program and Publication Committee, with the power of appointing an associate chairman.

(Dr. Rucker read the list of his committee appointments listed below.)

That brings the business to an end, I believe. Is there any unfinished business? Any new business?

If there is no further business, we stand adjourned.

(Whereupon the 101st Annual Session of the Medical Society of Virginia adjourned *sine die*.)

Standing Committees

(Numbers after names indicate length of term of office, as the By-Laws provide that new members of Standing Committees shall be named hy the incoming President for terms of three years, except in the case of the Department of Clinical and Medical Education.)

PUBLICATION AND PROGRAM: M. P. Rucker, M.D. (3), Richmond (appointed by Council), *Chairman;* Ennion S. Williams, M.D., Richmond, *Associate Chairman;* Wyndham B. Blanton, M.D. (1), Richmond; Alex. F. Robertson, Jr., M.D. (2), Staunton.

SCIENTIFIC EXHIBITS AND CLINICS: V. W. Archer, M.D. (1), Charlottesville, *Chairman;* W. Ambrose McGee, M.D. (2), Richmond; Charles H. Peterson, M.D. (3), Roanoke.

DEPARTMENT OF CLINICAL AND MEDICAL EDUCATION: Guy R. Fisher, M.D., Staunton, *Chairman;* George B. Zehmer, Charlottesville, *Executive Secretary;* L. J. Roper, M.D., Richmond, *State Health Commissioner;* S. D. Blackford, M.D., Charlottesville; C. M. Caravati, M.D., Richmond; W. L. Powell, M.D., Roanoke; Ernest Scott, M.D., Lynchburg.

LEGISLATION: W. C. Caudill, M.D. (1), Pearisburg, *Chairman;* Frank A. Farmer, M.D. (1) Roanoke; James R. Gorman, M.D. (1), Lynchhurg; Dean B. Cole, M.D. (2), Richmond; J. D. Hagood, M.D. (2), Clover; P. W. Boyd, M.D. (2), Winchester; Carrington Williams, M.D. (3), Richmond; C. J. Andrews, M.D. (3), Norfolk; F. C. Pratt, M.D. (3), Fredericksburg.

MEDICAL ECONOMICS: Walter B. Martin, M.D. (3), Norfolk, *Chairman;* J. T. T. Hundley, M.D. (3), Lynchburg; James P. Williams, M.D. (2), Richlands; J. B. McKee, M.D. (2), Winchester; H. H. McGuire, M.D. (1), Winchester; George S. Hurt, M.D. (1), Roanoke.

MEMBERSHIP: A. M. Showalter, M.D. (2), Christiansburg, *Chairman;* B. E. Harrell, M.D. (1), Norfolk; J. Bolling Jones, M.D. (3), Petersburg.

ETHICS: J. L. Hamner, M.D. (2), Mannboro, *Chairman;* K. D. Graves, M.D. (1), Roanoke; M. H. Harris, M.D. (3), West Point.

JUDICIAL: J. M. Hutcheson, M.D. (2), Richmond, *Chairman;* H. H. Trout, M.D. (1), Roanoke; P. St. L. Moncure, M.D. (3), Norfolk.

Special Committees

PUBLIC RELATIONS AND MEDICAL SERVICE: J. M. Emmett, M.D., Clifton Forge, *Chairman;* H. B. Mulholland, M.D., Charlottesville; L. J. Roper, M.D., Richmond.

RURAL HEALTH: H. B. Mulholland, M.D., Charlottesville, *Chairman;* E. C. Jamison, M.D., Rocky Mount; W. R. Pretlow, M.D., Warrenton; L. J. Roper, M.D., Richmond.

CHILD WELFARE: J. B. Stone, M.D., Richmond, *Chairman;* Emily Gardner, M.D., Richmond; J. M. Bishop, M.D., Roanoke; W. W. Waddell, Jr., M.D., Charlottesville; E. A. Harper, M.D., Lynchburg; H. H. Henderson, M.D., Fredericksburg; C. C. Powel, M.D., Harrisonburg; Charles P. Brown, M.D., Norfolk.

MATERNAL HEALTH: C. J. Andrews, M.D., Norfolk, *Chairman;* A. L. Carson, M.D., Richmond; G. N. Carter, M.D., Boydton; A. M. Groseclose, M.D., Roanoke; John M. Nokes, M.D., Charlottesville; C. A. Nunnally, M.D., Fredericksburg; Waverly R. Payne, M.D., Newport News; Edwin M. Rucker, M.D., Richmond; W. L. McMann, M.D., Danville; L. L. Shamburger, M.D., Richmond.

WALTER REED COMMISSION: James W. Smith, M.D., Hayes Store, *Chairman;* J. D. Clements, M.D., Ordinary; Clarence Porter Jones, M.D., Newport News. (Dr. Jones, who has served as chairman of this committee for many years, asked to be relieved of this duty so was just named a member.) The Woman's Auxiliary of the Mid-Tidewater Medical Society was also appointed to serve with this committee.

TO CONFER WITH STATE BOARD OF NURSE EXAMINERS: Frank S. Johns, M.D., Richmond, *Chairman;* A. P. Jones, M.D., Roanoke; Bruce Morton, M.D., Charlottesville; John A. Shackelford, M.D., Martinsville; Richard P. Bell, M.D., Staunton; Joseph D. Collins, M.D., Portsmouth; M. H. Harris, M.D., West Point; Russell Buxton, M.D., Newport News.

VENEREAL DISEASE CONTROL: D. C. Smith, M.D., Charlottesville, *Chairman;* W. W. S. Butler, M.D., Roanoke; E. M. Holmes, M.D., Richmond; John L. Jennings, M.D., Danville; R. W. Fowlkes, M.D., Richmond; M. S. Fitchett, M.D., Norfolk; James W. Love, M.D., Alexandria.

TUBERCULOSIS: C. Lydon Harrell, M.D., Norfolk, *Chairman;* Frank B. Stafford, M.D., Charlottesville; J. B. Nicholls, M.D., Catawba Sanatorium; Charles W. Scott, M.D., Burkeville.

MENTAL HYGIENE: J. B. Pettis, M.D., Staunton, *Chairman;* J. E. Barrett, M.D., Richmond; R. Finley Gayle, M.D., Richmond; James P. King, M.D., Radford; Frank H. Redwood, M.D., Norfolk; David C. Wilson, M.D., Charlottesville.

CANCER: George Cooper, Jr., M.D., Charlottesville, *Chairman;* I. A. Bigger, M.D., Richmond; C. W. Eley, M.D., Norfolk; A. B. Gathright, Jr., M.D., Richmond; E. P. Lehman, M.D., Charlottesville; William H. Parker, M.D., Charlottesville; Mason Romaine, M.D., Richmond; L. J. Roper, M.D., Richmond; D. P. Scott, M.D., Lynchburg; Herbert Wolff, M.D., Alexandria; George Z. Williams, M.D., Richmond.

INDUSTRIAL HEALTH: H. U. Stephenson, M.D., Richmond, *Chairman;* W. B. Barton, M.D., Stonega; M. W. Healy, M.D., Norfolk; J. V. Jordan, M.D., Covington; Charles L. Savage, M.D., Waynesboro; T. J. Tudor, M.D., Norton; James Elliott, M.D., Lebanon; Mary Johnston, M.D., Tazewell.

NUTRITION: Wm. R. Jordan, M.D., Richmond, *Chairman;* McLemore Birdsong, M.D., Charlottesville; A. B. Hodges, M.D., Norfolk; Ernest G. Scott, M.D., Lynchburg; William Grossman, M.D., Petersburg; Chas. L. Outland, M.D., Richmond.

ADVISORY TO WOMAN'S AUXILIARY: Beverley R. Kennon, III, M.D., Norfolk, *Chairman;* S. K. Ames, M.D., Cape Charles; George S. Hurt, M.D., Roanoke; Reuben F. Simms, M.D., Richmond.

REHABILITATION: Roy M. Hoover, M.D., Roanoke, *Chairman;* Paul D. Camp, M.D., Richmond; George A. Duncan, M.D., Norfolk; J. R. Blalock, M.D., Marion; N. F. Rodman, M.D., Norfolk; L. J. Roper, M.D., Richmond; G. B. Setzler, M.D., Pennington Gap; Leroy Smith, M.D., Richmond; Frank B. Stafford, M.D., Charlottesville; W. E. Dickerson, M.D., Danville; G. S. Fitz-Hugh M.D., Charlottesville; F. J. Wright, M.D., Petersburg.

NATIONAL EMERGENCY MEDICAL SERVICE: John Powell Williams, M.D., Richmond, *Chairman;* Guy Richardson, M.D., Bristol; R. P. Bell, Jr., M.D., Staunton; W. H. Chapman, M.D., Suffolk; L. F. Hobbs, M.D., Alexandria; J. M. Hurt, M.D., Blackstone; Frank A. Farmer, M.D., Roanoke; Edgar C. Harper, M.D., Richmond.

CONSERVATION OF HEARING: P. N. Pastore, M.D., Richmond, *Chairman;* Fletcher D. Woodward, M.D., Charlottesville; H. Grant Preston, M.D., Harrisonburg; F. H. McGovern, M.D., Danville; Mortimer H. Williams, M.D., Roanoke; T. M. Winn, M.D., Covington.

HOUSE OF DELEGATES PROCEDURE: H. B. Mulholland, M.D., Charlottesville, *Chairman;* J. M. Hutcheson, M.D., Richmond; Alex. F. Robertson, Jr., M.D., Staunton.

TO CONFER WITH OLD DOMINION MEDICAL SOCIETY: J. M. Hutcheson, M.D., Richmond, *Chairman;* Hugh H. Trout, M.D., Roanoke; Walter B. Martin, M.D., Norfolk.

BLUE CROSS AND BLUE SHIELD: Wm. R. Pretlow, M.D., Warrenton, *Chairman;* H. L. Denoon, M.D., Nassawadox; E. C. Joyner, M.D., Suffolk; Guy W. Horsley, M.D., Richmond; Thomas G. Hardy, M.D., Farmville; W. C. Brann, M.D., South Boston; J. T. T. Hundley, M.D., Lynchburg; Harold W. Miller, M.D., Woodstock; J. P. Sutherland, M.D., Harman.

BUSINESS SESSIONS

Council

The regular meeting of the Council was called to order by the president, Dr. Guy R. Fisher, at the John Marshall Hotel, Richmond, October 17th, at 5:00 P.M. Those in attendance were: Dr. M. P. Rucker, president-elect; Dr. W. L. Powell, immediate past president; Drs. Frank Farmer and P. W. Boyd, vice-presidents; Drs. R. B. Bowles, C. L. Harrell, Guy W. Horsley, J. L. Hamner, W. A. Porter, W. R. Whitman, R. P. Bell, Jr., V. W. Archer, and James P. King, councilors; and Dr. L. J. Roper, State Health Commissioner.

The reading of minutes of previous meetings was dispensed with and the minutes approved as published in the *Monthly.*

With regard to a retirement plan for employees of the executive office, Dr. Horsley reported that insurance companies had said this would be too expensive to handle for so few employees. It was, therefore, recommended that the Society not establish a retirement fund at this time with any commercial company.

The question of inviting colored physicians to scientific sessions was next considered. Dr. Archer had written the American Medical Association asking their attitude and had found colored physicians were allowed to attend their meetings if they were members of a component society. He moved that the delegates to the A.M.A. take a recommendation from the society that members of the Old Dominion Medical Society be allowed to attend the scientific sessions of the A.M.A. He did not feel the standing of the State society should have anything to do with this as most hotels in the South do not allow Negroes to attend meetings in their hotels. However, it was stated that some hotels now allow a certain number to attend meetings. Dr. Rucker moved that a committee be appointed to confer with a committee from the Old Dominion Medical Society to see if there was some way this could be ironed out to the satisfaction of both organizations. Dr. Harrell said this request had come to the Norfolk County Medical Society, and they invited them and set aside a portion of their meeting hall for them. Thus far, none of them has ever attended a meeting. He felt that as long as there is no place for colored physicians to get any additional training in the State, the society should help them out if possible. Dr. Powell said they had had requests in Roanoke but as they have dinner meetings, nothing has been done about it. Dr. Archer felt the House of Delegates has a right to invite colored physicians to attend the scientific sessions. This in no way would affect the rights of component societies. Dr. Hamner said the Fourth District Society had invited colored physicians to attend their scientific sessions. They had always come in a body and sat in a specific place and this had proved a satisfactory arrangement. A vote being taken, Dr. Archer's motion was lost and Dr. Rucker's carried.

A letter from the American Association of Blood Banks, asking for endorsement of their organization, was read. After some discussion as to the purpose and actual work of this organization, motion was made and carried that this lay on the table until more definite information could be obtained as the Council did not seem to know much about it.

Dr. Fisher said that Dr. Rucker, as president, could not re-appoint himself as chairman of the Publication and Program Committee, and he felt it was the wish of this body for him to continue as editor. It was moved and carried that he be re-appointed with the power to select an assistant.

The American Medical Association had asked each state society to submit a name for the annual outstanding general practitioner award. The local societies had submitted the names of Dr. P. St. L. Moncure, Norfolk, and Dr. J. D. Hagood, Clover. It was moved and carried that this be brought up in the House of Delegates where a more democratic discussion could be had.

The budget as prepared by Drs. Horsley and Porter was then presented. In the discussion which followed, it was stated that a request from the Woman's Auxiliary for an appropriation for the convention could be cared for out of the convention funds and not made an item in the regular budget. The Graduate Nurses Association had asked the Society to take an advertisement in their official publication but this was rejected. It was thought wise to increase the insurance on Belroi, the home of Walter Reed, up to $2,000.00 if the insurance company would carry the additional amount, and this was so ordered. It being stated that Dr. Fisher had not submitted an expense account and it was known he had considerable expense during a legislative year, it was moved and carried that he be reimbursed if he presents a statement. The budget was then adopted as follows, to be presented to the House of Delegates:

EXECUTIVE OFFICE	1947-48 BUDGET
Salaries	$ 7,600.00
Bonuses	600.00
Rent	600.00
Telephone and telegraph	225.00
Stationery and supplies	175.00
Postage	300.00
Repairs and replacement	275.00
Councilors and secretary	100.00
Secretary and assistant to A.M.A.	250.00
Delegates to A.M.A.	600.00
President's expense	250.00
Virginia Medical Monthly	14,000.00
Dept. Clinical Education	1,200.00
Walter Reed Commission	75.00
Scientific Exhibits	1,200.00

Cancer Committee	250.00	
Maternal Health	100.00	
Miscellaneous	75.00	
Audit	90.00	
Convention	700.00	
Special appropriations by order of President	500.00	
Va. Council Health and Medical Care	500.00	
Social Security	60.00	
Membership dues for affiliated agencies	35.00	
National Emergency Medical Service	150.00	
		$29,910.00
PUBLIC RELATIONS		
Salary—Director	7,000.00	
Personnel	3,000.00	
Traveling expenses	2,000.00	
Conferences	1,000.00	
Radio	3,500.00	
Press	4,000.00	
Printing, Literature, Bulletin	3,000.00	
Telephone and telegrams	1,000.00	
Rent	600.00	
Stationery and supplies	500.00	
Postage	1,000.00	
Office Equipment	500.00	
Miscellaneous including Social Security	1,000.00	
		28,100.00
		$58,010.00

It was stated that there are 123 members of the Society who have practiced for fifty or more years, and it was felt they should be shown some special consideration. Dr. Archer moved that the members of the "Fifty Year Club" be made "life members" and be exempt from further dues. Seconded and carried.

"Medicine of the Year" an annual review of medical progress has been offered the state medical associations as a supplement to their state medical journals. Dr. Archer stated that this supplement would appear once a year and would require that at least one-third of the members of a state society subscribe to it. It can be sent out from the state society if all members subscribe or from "Medicine of the Year" if only a proportion of members subscribe. The subscription price will be $1.60. It was moved and carried that the Society endorse the plan for members to subscribe to this abstract.

Dr. Hamner reported that the Ethics Committee, of which he was chairman, had been asked for an opinion as to the ethicalness of the organization of the "Dr. Elbyrne Grady Gill Postgraduate Association". He and Dr. Graves had seen no objection to this but wanted an expression from the Council. Dr. Archer moved that the Council concur with the Ethics Committee in their opinion. Carried.

Communications from the Oregon State Medical Society and the Medical-Surgical Plan of New Jersey were referred to committees with the request that they report their findings at the first meeting of the House of Delegates.

A communication from the American Diabetes Association with regard to their Diabetes Detection Drive was also referred to a committee for report to the House.

There being no further business, the Council adjourned.

House of Delegates

The first meeting of the House of Delegates was called to order by Dr. Fisher, President, at 8:00 P.M., October 17th, at the John Marshall Hotel, Richmond.

A quorum being present, the minutes of the last meeting, as published in the December 1947 issue of the MONTHLY, were approved.

The budget as approved by the Council was presented by Dr. Horsley and accepted.

The President then called for reports from the Council. Drs. Powell and Boyd stated they had a recommendation to make with regard to the letter from the Medical-Surgical Plan of New Jersey as they did not feel any action was necessary. Dr. Mulholland felt this a very important matter. Several years ago the American Medical Association sponsored a national organization of prepayment non-profit medical insurance—Blue Cross and Blue Shield. They not only backed this with liberal service but also with money. This organization has now gotten away from the A.M.A. in that doctors do not participate in it. They propose to organize a National Insurance Company in which there will be 30 directors, 9 of them being doctors. The others will be lay individuals who are interested in the organization. The Council on Medical Service considered this very carefully and they could see no reason for the formation of such a company at this time. They felt a national organization should be developed which would coordinate all the local organizations and allow them to operate and sell insurance locally, as they still feel the local organizations are very important for prepayment medical service. It is the desire of the Council that each medical society consider this very carefully and go on record as either opposing or approving the plan. Dr. Hundley stated that the Committee on Medical Economics had a meeting and they would have a recommendation with regard to the National Insurance Company as a supplementary report. Dr. Hutcheson felt that the organization of such a company is premature. Dr. Powell stated that the reason they did not have any recommendation to make was because this letter was with regard to the New Jersey plan and did not ask for any action on the part of the society.

With regard to the communication from the American Diabetes Association, Dr. Farmer asked that Dr. Mulholland explain this as he is a member of the Council of this Association. Dr. Mulholland stated that the Association is putting on a Diabetes Detection Drive from December 6-12. This is being conducted because a study of two different towns—one in Massachusetts and one in Florida, where practically every individual had his urine examined—proved that there are possibly about a million unknown diabetics in this country. It seems a

worthy project and they are only trying to get the doctors to work with them. It was moved that the Society endorse this project. Seconded and carried.

Dr. Horsley stated that he had no recommendation to make with regard to the communication from the Oregon State Medical Society as this was exactly the same as the one from New Jersey and would be covered in Dr. Hundley's report.

Reports from committees, as published in the September issue of the *Monthly* (pages 465-479) were next considered as follows:

EXECUTIVE SECRETARY-TREASURER (pages 465-6)—Accepted.

DIRECTOR, PUBLIC RELATIONS (page 466)—Accepted.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION (pages 466-8)—Accepted.

PUBLICATION AND PROGRAM (page 468)—Accepted.

SCIENTIFIC EXHIBITS (page 468)—Dr. Archer, chairman, stated this is the first year the Society has had a professional set up for the exhibits and urged all members to see what has been done and give frank comments. Report accepted.

CLINICAL AND MEDICAL EDUCATION (page 468)—Accepted.

LEGISLATION (pages 468-10)—Accepted.

MEDICAL ECONOMICS (page 410)—Dr. Hundley, chairman, read the following supplementary report:

It is to the interest and the well-being of both the veteran and the medical profession that as large a part of the medical care for veterans be given by his own doctor, in his own community, as is possible. Therefore it is recommended that every member of the Medical Society of Virginia cooperate as fully as the character and nature of his practice permits in the home town medical care program for veterans.

We recommend the disapproval of additional construction of Veterans Hospitals until it is demonstrated that there is need of additional space to care for service connected disabilities or medically indigent veterans.

And further recommend that the law which requires that the Veteran's care be confined to service connected disabilities or those which are emergencies, or those who are honestly unable to pay for care, be enforced.

It is generally recognized that the Blue Cross and Blue Shield plans are the best defense that the medical profession has against the institution of compulsory insurance plans. It is also recognized that there is great need for plans with wider geographical coverage, and a more uniform type of contract. It is therefore recommended that the existing Blue Cross plans in the state be urged to consolidate into a state-wide plan, or to institute uniform contracts with reciprocity between plans, and that efforts be made to reciprocate with other plans on a nation-wide basis.

It is also urged upon the membership of the Medical Society of Virginia that they cooperate fully in the Blue Cross and Blue Shield plans, by personally subscribing, and urging their patients and friends to subscribe.

WHEREAS, the Commission of Blue Cross and Blue Shield have approved plans for setting up the Blue Cross-Blue Shield Health Service, Inc.—a National Insurance Company, and

WHEREAS, at the conference of State Medical Society Presidents or their representatives from forty-two states, in Chicago on June 19, 1948, it was the consensus of opinion that no national insurance company be formed at this time, and

WHEREAS, the House of Delegates of the American Medical Association in session immediately following this conference approved this action and recommended further study,

THEREFORE, BE IT RESOLVED, that the House of Delegates of the Medical Society of Virginia in session in Richmond, Virginia, on October 17, 1948, disapprove of the formation of a National Insurance Company at this time, *and until definite action has been taken by the House of Delegates of the American Medical Association.**

BE IT FURTHER RESOLVED, that copies of this resolution be sent to the National Blue Cross and Blue Shield organization, to the Council on Medical Service of the American Medical Association and to each Blue Cross and Blue Shield organization in Virginia.

There are instances of abuse of the ethics of medical practice and of violations of public confidence. The medical profession has available the means of correction and discipline, but they are rarely utilized. The general public has no means available except recourse to the courts of law.

Your committee recommends that the Council, or an appropriate committee of the Medical Society of Virginia, investigate the various plans proposed or in operation, in other states, and present a report, if possible incorporating a plan for the creation of a method of investigation and decision of complaints registered by other members of the medical profession, or by the lay public. This report shall be presented at the next annual meeting of the House of Delegates, and shall provide for a state-wide organization to achieve this purpose.

There is nation-wide complaint of the inability to secure doctors who will make night calls.

Your committee recommends that each constituent society of the Medical Society of Virginia compile lists of those doctors who express a willingness to make night calls, that those lists be kept up to date, that publicity be given to the list, and that the list be made available to those persons attempting to locate a doctor for night calls.

Dr. Walter B. Martin told of the formation of Blue Cross and Blue Shield plans and said the purpose of the organization was to act as a trade plan, to gather material and information, and to send field representatives to aid in developing state plans. Within the states themselves there is more difficulty in cooperation than between the states. The Council on Medical Service is not opposing this movement entirely but they think it should be held in abeyance until it can have further study. It is not felt it will be successful at this time. Dr. J. B. Leary told of the trouble they are having in Arlington County with the plan conducted by the Medical Society of the District of Columbia. He did not think this plan should have been put into effect without consulting the outlying counties as it so vitally affected them. What might be

*Accepted with omission of italicized words.

an adequate fee in one county might be inadequate in another where the prevailing costs, etc., are on a different level. He moved that before the society endorse any consolidated Blue Cross plan in the state it be considered by a committee at which there will be a representative of each county in the state. Dr. J. A. Sims felt that the Washington plan of insurance would be forced upon them because the Blue Cross does not have a plan which considers the best interest of their patients. Dr. Martin felt this discussion was out of order as there are only two things to be considered—a recommendation that a National Insurance Company not be formed, and a consideration of the various plans of the state with an idea of working out an acceptable policy. Dr. F. D. Daniel moved that the lines "and until definite action has been taken by the House of Delegates of the American Medical Association" be deleted from Dr. Hundley's resolution. Seconded and carried. Dr. W. R. Pretlow stated that the Blue Cross and Blue Shield plans in Virginia are now operating as individual agencies. It seems that some coordinating plan should be worked out in order to increase enrollment, etc. Dr. Hundley's report was then considered in parts. The second recommendation with regard to veterans' hospitals was accepted with an amendment that a copy be sent to the Council on Medical Service of the American Medical Association, Congressmen and Senators of Virginia, the Veterans Bureau, and the Veterans Administration in Virginia. The resolution with regard to National Insurance Company was accepted as amended and the others as read.

MEMBERSHIP (pages 470-1)—Adopted.

ETHICS (page 471)—Accepted.

JUDICIAL (page 471)—Dr. Hutcheson, chairman, presented the following supplementary report:

Your Judicial Committee begs to submit the following recommendations:

1. That Article VIII of the Constitution be amended so that the standing committee numbered (5) shall read "Medical Service" instead of "Medical Economics".

2. That Article IX of the By-Laws be amended so that "Medical Service" be substituted for "Medical Economics" in the list of committees and in subsequent paragraphs on page 13 and in the heading over Section 5 on page 15. On page 13 the section referring to the Committee on Medical Economics shall read as follows: "The Committee on Medical Service shall consist of nine members, one from each Congressional district, whose term of office shall be three years, three to be appointed each year by the incoming president." That Section 5 read as follows: "The Committee on Medical Service shall have supervision of all matters relating to prepaid hospital and medical care and rural health."

3. That the present Special Committee on Public Relations be made a standing committee and so designated in Article VIII of the Constitution. That this committee be listed in Article IX of the by-laws on page 13, and its duties defined as follows: "The Committee on Public Relations shall supervise all the society's undertakings in the field of Public Relations."

P. ST. L. MONCURE
HUGH H. TROUT
J. MORRISON HUTCHESON, *Chairman*

As this necessitated a change in the Constitution, it will lay on the table until the next annual meeting as this should be published in the *Monthly* one month in advance of the meeting. The original report was accepted to be voted on finally at the next meeting of the House.

PUBLIC RELATIONS (pages 472-3)—Accepted.

RURAL HEALTH (page 473)—Accepted.

MATERNAL HEALTH (pages 473-4)—Accepted.

CHILD WELFARE (page 475)—Accepted.

TUBERCULOSIS (pages 475-6)—Dr. Roper said he was glad to report that ground had been broken for the first part of the tuberculosis rehabilitation program at Blue Ridge Sanatorium. Report accepted.

MENTAL HYGIENE (pages 476-7)—Accepted.

MEDICAL EXAMINER SYSTEM (page 477)—Accepted.

TO CONFER WITH STATE BOARD OF NURSE EXAMINERS (page 477)—Accepted.

CANCER (page 477)—Dr. Cooper presented the following supplementary report which was accepted along with the published report:

The Cancer Committee met this afternoon and submits the following supplementary report.

Application for a diagnostic tumor clinic from a group of Petersburg physicians headed by Dr. William S. Sloan was approved, pending investigation by the American College of Surgeons.

Application for a tumor clinic from a group of Riverside Hospital, Newport News, physicians headed by Dr. A. K. Butler was approved, pending investigation by the American College of Surgeons and provided the Riverside Hospital Tumor Clinic combine with the Buxton Hospital and Dixie Hospital Tumor Clinics.

A recertification of the Buxton Hospital and Dixie Hospital Tumor Clinics was approved, provided these clinics combine with the new Riverside Hospital Clinic.

All other previous recertificated clinics were approved for the coming year.

The Cancer Committee authorized the Virginia Division of the American Cancer Society to increase its payments for x-ray therapy given in the certificated tumor clinics. The approved rate is $3.00 per treatment up to a maximum of $30.00 for a single course. It also authorized payment at a rate of $4.00 per examination for follow-up x-ray studies with a maximum of $20.00 on any one patient per calendar year.

The Cancer Committee asked that the House of Delegates approve the present program of collection of information by the Bureau of Cancer Control for its tumor registry. Under the present program, the hospital is asked to permit a representative of the Bureau of Cancer Control to review and abstract its records on cancer patients from January 1, 1947, to date. While there, the representative trains some one of the hospital's record room clerks to send in her prepared abstracts. The Bureau pays the local clerk by the piece. Action is asked from the House because some hospitals have been reluctant to grant access to their records. If the House approves, the program may be expedited.

GEORGE COOPER, JR., *Chairman*
I. A. BIGGER
CLAYTON W. ELEY
A. B. GATHRIGHT
EDWIN P. LEHMAN
WILLIAM H. PARKER
MASON ROMAINE
L. J. ROPER
GEORGE Z. WILLIAMS
HERBERT WOLFF, JR.
GUY FISHER
PIERCE RUCKER

Dr. C. L. Riley asked is there any legal responsibility involved in releasing names of patients with cancer. Dr. Cooper said Dr. Romaine had asked for an opinion from the Commonwealth's Attorney who said no hospital would be liable for suit on releasing names of patients who die of cancer. Dr. Roper felt there was a conditional opinion and he did not think it very clear. It was stated that in Charlottesville a lawyer said it was not only all right but if the hospital refused to make their records available they could be prosecuted. Dr. Roper said they would like to be in a position to secure this information from hospitals because they could have more information on which to base a control program. The names of these patients are, of course, not made public.

NUTRITION (pages 477-8)—Accepted.

REHABILITATION (page 478)—Accepted. Dr. Duncan suggested that any member in the vicinity of the Woodrow Wilson Hospital go by to see the work being done there.

CONSERVATION OF HEARING (pages 478-9)—Accepted.

INDUSTRIAL HEALTH (page 479)—Accepted.

VENEREAL DISEASE CONTROL (page 479)—Accepted. Dr. Love, a member of the committee, stated they had a supplementary report which they would like to present at the next meeting of the House.

WALTER REED COMMISSION (page 479)—Dr. Jones, chairman, gave a history of the Walter Reed Commission and stated that he would not accept the chairmanship for another year. He told of the efforts of a representative of Congress in Newport News to get the National Park Association to take over "Belroi". He recommended that the president be empowered to appoint a larger commission if necessary to get Congress to have the National Park Association take it over. The report was accepted, and it was announced that the Council had authorized an increase of insurance on this home up to $2,000.00.

ADVISORY TO WOMAN'S AUXILIARY (page 479)—Accepted.

The following report from the Auxiliary was then read and accepted:

The Woman's Auxiliary to the Medical Society of Virginia has stressed *Health Education, Health Legislation, Friendliness* and *Cooperation* along with *Philanthropic* work this year.

As this was the year the General Assembly convened, the chairman of Legislation had the opportunity to work unceasingly in her efforts against the Chiropractic and Naturopathic bill. This bill was killed in committee.

The Auxiliary had the opportunity of endorsing and recommending:

Increasing the number of hospital beds in Virginia from 7,000 to 12,000 under the Hill-Burton Act and for the establishment of Medical Service and Health Centers in rural areas on the basis of need; and

Endorsing a program of research in the control of cancer.

The Child Labor Law was supported to conform with the present school attendance law and necessary legislation was requested to extend the Juvenile Court System.

The memorial fund in honor of Doctors Leigh, Hodges and Wright has been used to defray the expenses of a young physician in one of the State Sanatoriums.

The members of one Auxiliary are working on a memorial in honor of a deceased past president. This fund is to be used to establish a tumor clinic.

Hygeia has been stressed as the approved magazine for schools. Some of the Auxiliaries have given subscriptions to both white and colored school libraries throughout their counties.

The Jane Todd Crawford Memorial has been supported.

Doctor's Day has been celebrated in various and interesting ways with the predominating thought of doing something for those who spend their lives helping others.

Members of the Auxiliaries have assisted in Red Cross and Cancer Drives, the March of Dimes and have given their time and donations to the hospitals in their respective communities. Gifts ranging from twenty-five dollars to scholarships have been given to student nurses.

A card file system has been established which will be of great service to future nominating committees.

A school of instruction is in the making. Monthly programs have included guest speakers whose subjects have been—Public Relations, Health, Juvenile Delinquency and Up-to-the-Minute World Affairs.

The president has visited seven of the ten component Auxiliaries and with the president-elect attended the National Conference at Chicago in November, 1947.

The membership has increased from 409 to 442, during the past year.

The activities of the Auxiliaries have appeared in the local papers and on the Woman's Auxiliary page of the VIRGINIA MEDICAL MONTHLY.

Members of the Advisory Council are invited to attend meetings of the State Auxiliary at the annual session.

We ask for continued support and guidance of the Council, which has been most cooperative.

Members of the Auxiliary are at all times anxious to render valuable service to the Medical Profession and in turn to the public.

MABEL LEWIS (MRS. J. L.) DECORMIS, *President, Woman's Auxiliary to the Medical Society of Virginia.*

The President announced that the House would select an outstanding general practitioner from Virginia, his name to be passed on to the American Medical Association to be voted on with those from other states for national recognition. The names of Dr. P. St. L. Moncure, Norfolk, and Dr. J. D. Hagood, Clover, had been submitted in advance of the meeting and the information received was read as follows:

PHILIP ST. LEGER MONCURE

The Norfolk County Medical Society feels a great pride in submitting the name of Dr. Philip St. Leger Moncure to the Medical Society of Virginia as its candidate for the honor of being declared the most outstanding general practitioner in the state. Our Society also feels that no physician in the United States is more worthy than Dr. Moncure for the national honor to be awarded by the American Medical Association.

Pertinent data in the life and accomplishments of Dr. Moncure are as follows:

He was born in Caroline County, Virginia, January 27, 1867.

His earliest education was obtained in the public schools

of his native county, graduating from the graded school at Bowling Green, Virginia, in 1887.

In 1888 he went to work in the office of the Richmond, Fredericksburg and Potomac Railroad Company where he remained until 1894 when he entered the Medical College of Virginia. He graduated in 1897, fourth in his class.

Following graduation he entered the hospital of St. Vincent de Paul as interne and house physician. At the completion of this service he began the practice of medicine in Norfolk and to this day, after fifty years, he continues in active general work and holds the love and admiration of a multitude of friends and patients as well as the respect and devotion of his medical colleagues throughout this state.

He has been actively associated with the hospital of St. Vincent de Paul during his entire medical career. He was one of the first presidents of its staff. He served on the Gynecological Service actively for fifty years and when he recently resigned, he was made a consultant in that department. On May 8, 1947, he was honored at a Golden Jubilee Banquet given him by the Sisters of Charity of the De Paul Hospital. On this occasion he was the recipient of many congratulatory messages from his colleagues and friends. Handsome presents were also presented to him in token of the affection that exists for him He has supported all the other hospitals in his community and has enjoyed their staff privileges at all times.

He became a member of the Medical Society of Virginia in 1897 and was elected its president in 1936. He went as a delegate from the Society to the meeting of the American Medical Association in Kansas City in 1937.

He has always been a most active member of his local society, the Norfolk County Medical Society, and was elected its president in 1911.

He was elected president of the Seaboard Medical Association in 1937.

He served on the State Board of Medical Examiners for thirty years, where he vigorously fought for control and regulation of the irregulars and cultists in the state.

He has maintained a continuous membership in the American Medical Association.

In 1913 he attended the American Congress of Surgery in Chicago at which meeting the American College of Surgeons was organized; he thus became a Charter Member of this Society and attended their annual meetings for many years.

Dr. Moncure has been very active in Masonic work for many years and is a member of all the bodies, both York and Scottish Rite. He has been honored by the Scottish Rite Bodies by having the Thirty-third Degree conferred upon him. He has been Almoner for this organization for many years.

He is an active member of the Episcopal Church.

He married Miss Grace F. Terry of Bent Mountain, Virginia, thirty-three years ago.

While the achievements that have been mentioned indicate the prominence he has attained, it is not wholly because of these that Dr. Moncure was selected by his local society to be its candidate for the honor to be awarded. His fellow members have observed his conscientious attentions to the poor and needy as well as to the rich. Service to the poor among his very large clientele has never lessened during his career and today there is inscribed on his office door, "Tuesdays, Thursdays and Saturdays for Colored Patients".

The service which Dr. Moncure has rendered his patients has been a broad one. He has been a proficient general surgeon and has had a wide, successful experience in gynecological and obstetrical surgery. These abilities were self-developed by study, work in hospital clinics and a continued interest in scientific medical meetings. His accomplishments are a tribute to our system of medicine wherein a general practitioner may by his own efforts develop special abilities and achieve professional and civil honors to the benefaction of his patients, honor to his profession and happiness to himself.

M. S. FITCHETT, *Chairman.*

JAMES DAVIS HAGOOD

We hereby submit the name of Dr. J. D. Hagood to the State Medical Society to be entered in the competition for state and possible national recognition.

The Halifax County Medical Society at a meeting held at Halifax, Virginia, on Wednesday night, September 22nd, named Dr. J. D. Hagood of Clover "the outstanding general practitioner from the standpoint of professional and lay leadership" in the county for the year.

Recently *Medical Economics, Inc.,* a national medical journal, in a letter to the *South Boston News* cited Dr. Hagood "as a good example of a man who has successfully combined medical and political careers".

The political career of Dr. James D. Hagood is a direct outgrowth of his interest in the sociological and civic welfare of the people of Halifax County, which comprises his senatorial district.

A little more than twenty-eight years ago when the schools of Halifax County were in need of leadership he became interested in the public schools, serving first on the district school board and later becoming chairman of the Halifax County School Board, where he served with such distinction that he was elevated to the post of chairman of the County Board of Supervisors, the local governing body of the county. When a vacancy occurred in the State Senate, he was the natural choice of all the people.

In his six years of service in the State Senate he has gained state-wide recognition for his leadership in the promotion of legislation; first, to curb the promiscuous disuse of sulfa drugs and harmful drugs by requiring that they only be dispensed by physicians' prescriptions. On the passage of this bill medical and health problems in Virginia began to be submitted to Dr. Hagood and he secured passage of several helpful measures in the public welfare.

The latest legislation enacted at the most recent term of the Virginia legislature, and perhaps the most useful, was a bill sponsored by Dr. Hagood to bring the entire question of the sanitation of Virginia's facilities for the motorist and tourist trade under the active supervision of the State Department of Public Health. This bill covers not only general sanitation, but subjects all eating places to the closest inspection, thus removing abuses in numerous instances, and safeguarding all who visit Virginia.

In 1946 Dr. Hagood was made a member of the Virginia Advisory Legislative Council. His sound common sense made him in addition a member of the governor's Budget Committee of the State of Virginia. He occupies one of the most important posts of leadership both in the State Senate and in the Virginia legislature.

Dr. Hagood's medical duties are those of a general practitioner, serving a large rural area and two small towns. In addition he maintains a maternity hospital, which is widely patronized. It has been a tremendous undertaking for Dr. Hagood to render this medical service and also to give a considerable portion of his time to the service to his county and state. His twenty-eight years in local and state politics has cost him considerable time, but the value of his service has been so recognized that he has been able to obtain assistants to carry on his

medical duties when it was absolutely necessary for him to be away from home on political missions. Quoting Dr. Hagood, he says, "I feel that I have been amply repaid for any sacrifices I may have made."

WM. C. BRANN, M.D., *President, Halifax County Medical Society.*

Dr. C. W. Pritchett, Danville, was also nominated and the following information read:

CHARLES WESLEY PRITCHETT

Nominating Dr. C. W. Pritchett, Danville, Virginia, for selection as Virginia's outstanding general practitioner, his name to be presented to the American Medical Association for consideration in making its award for 1948.

Dr. Charles Wesley Pritchett, Jr., was born July 1, 1864, at Mount Cross, Pittsylvania County, Virginia. His education was had in the public schools of his native county and at Richmond College. His M.D. degree was awarded by the College of Physicians and Surgeons at Baltimore in 1886. Following this he did post-graduate work at Johns Hopkins University in 1898 and at the Mayo Clinic in 1917.

He had started practice after interning at Maternity Hospital, Baltimore, in the year 1887 at Keeling in Pittsylvania County. There he practiced as a country doctor for twelve years, doing all things for all people and being all things to all people as was the custom in those days. His office was moved to Danville on September 12, 1898, and he has been actively engaged in general practice there since that date, his waiting room still being crowded with patients of all colors, ages, sizes and circumstances. To everyone, patients, colleagues and fellow citizens, he is the beloved "Doctor C. W.". During that time he has raised and educated a son and a nephew to follow his own profession.

Upon moving to Danville, he immediately became associated with his local general hospital and served as staff president for fourteen years, from 1926 to 1940. His portrait hangs already in its library. More than once he has been president of his medical society and even now serves it with all his zeal and wisdom.

In civic life he has been a foremost leader, being a 32nd degree Mason, a former president of the Lions Club, and a pillar of the Baptist Church to which he has always contributed most literally. For more than six years he was a member of the City Board of Health, having early interested himself in preventive medicine and sanitation. He is a member of the American Medical Association and the Southern Medical Association and has been for many years.

In the business life of his community, he has taken a leading part, being now president of one bank, the Virginia Bank and Trust Company, and associated with four others. He is a long-time stockholder in the Dan River Mills and other industries.

Dr. Pritchett is presented as a fine general practitioner of many years service to his fellowman, a civic leader of the first order, and a successful business man—that is, a well-rounded citizen and a noble gentleman, a man of the kind that everyone of us would like to be and would strive for our sons to be.

Respectfully submitted by the Danville-Pittsylvania Academy of Medicine, per L. R. Broome, M.D.

Dr. H. A. Latane, Alexandria, was then nominated, and it was moved that vote on these men be deferred until the next meeting in order that further material might be procured and the delegates might have more time to consider this matter. Carried.

Dr. W. C. Elliott presented the following resolution:

TO THE HOUSE OF DELEGATES OF THE MEDICAL SOCIETY OF VIRGINIA:

As a representative to the House of Delegates from Russell County, I wish to present to you a very serious matter for your consideration, and one which is believed to be jeopardizing the rural practice of medicine in Southwest Virginia, and the kind of medical care our people are receiving.

In recent years there has been an influx of graduates of sub-standard medical schools in our section which has contributed as a degrading factor. We do not think that this influx has alleviated the shortage of doctors or that this has in any manner relieved the burden of the general practitioner.

We feel that the Medical Society of Virginia can contribute materially to the solution of this problem by lending a helping hand to our component societies in going on record as being unalterably opposed to the licensing or recognition of graduates of sub-standard schools. This we believe is the responsibility of the medical profession as custodians of the kind of medical care our people receive.

It is proposed that the Medical Society pass a resolution to this effect:

WHEREAS, the practice of medicine in Virginia by graduates of sub-standard schools presents a problem as well as a nuisance to the general practitioner of the State of Virginia;

THEREFORE, BE IT RESOLVED by the House of Delegates that the Medical Society of Virginia go on record as being opposed to the licensing or recognition of graduates of sub-standard medical schools.

Dr. K. D. Graves stated that the Board of Medical Examiners had licensed about 25 Grade B graduates in the past ten years but they were required to pass the same examinations as those from Grade A schools. These graduates are given much consideration before they are accepted for examination and a number of them have been turned down. As it now stands this is left to the discretion of the Board. Dr. Mulholland felt if these people are allowed to take the examinations, the standards are being lowered. Dr. Horsley said he did not think there were any more Grade B schools in this country and this would not come up in the future. In 1946 the Board had a large number of applications from Grade B schools but only about four were allowed to take the examinations. They had passed a resolution that they would take no more Grade B graduates but they had been besieged with testimonials and requests to license some of these men. Since 1946 the Board has turned down all Grade B school graduates until the last examination when four of them were allowed to take the examination as they had made application before the rule was passed. Dr. Horsley felt it would help the Board a great deal if the Society would go on record as opposing the licensing of Grade B school graduates. Dr. P. W. Boyd stated he was a member of the Board for thirty-seven years and none of these men was received until he had been thoroughly investigated and recommended by some physician of the state or unless he had

interned in some reputable hospital in the state for as much as two years. He felt that as long as these men had been licensed, they should be taken into the society and helped as much as possible, and they should not be kicked around now. They took the same examinations as the Grade A men and in some instances made better grades. Dr. Martin said he was certainly not in favor of lowering the standards of the medical practice act but he did know some of the men who were unusually good and doing reputable work. It was moved that this resolution be referred to the Council with request that they obtain specific information with regard to these men—how many and where they were located in the state; what is the status of these Grade B schools, and what is the future of this question. This was seconded and lost. It was then moved that Dr. Elliott's resolution be approved. Dr. John Powell Williams moved that the part "presents a problem as well as a nuisance to the general practitioner of the State of Virginia" be deleted and the following substituted "jeopardizes the health of the people of the State of Virginia and also tends to lower the standards of medical education". The resolution was passed as amended.

The Nominating Committee was then elected as follows:

1st District—Dr. A. A. Creecy

2nd District—Dr. E. C. Joyner

3rd District—Dr. H. H. Ware

4th District—Dr. J. L. Hamner

5th District—Dr. W. A. Porter

6th District—Dr. Frank Farmer

7th District—Dr. Harold Miller

8th District—Dr. H. B. Mulholland

9th District—Dr. J. C. Moore

The President then named the following chairmen of even numbered districts to bring in the name of a councilor:

2nd District—Dr. E. C. Joyner

4th District—Dr. J. L. Hamner

6th District—Dr. J. T. T. Hundley

8th District—Dr. H. B. Mulholland

There being no further business, the House adjourned to meet again on Tuesday morning at 9 o'clock.

House of Delegates

Second Meeting

The second meeting of the House of Delegates was held on October 19th at 9:00 A.M., with Dr. Fisher presiding. Roll call showed a quorum present.

Dr. Butler, chairman, presented the following supplementary report from the Committee on VENEREAL DISEASE CONTROL:

Your Committee on Venereal Disease Control submits the following report:

1. That the rapid treatment center be continued. Of 8,000 cases reported last year, 6,000 were treated in this institution.

2. Treatment of early syphilis:

Procaine penicillin in oil with 2 per cent aluminum monosterate be used. 4 cc. (1,200,000 units) be given in a single dose in one site. This treatment to be given in 4 doses once a week with 10 doses of .2 gm. Bismuth in oil weekly beginning with the penicillin. This preparation maintains an adequate level for approximately one week. Aqueous preparations are satisfactory in acute conditions.

A serologic follow-up of blood Wassermann monthly for two years. A negative spinal fluid should be obtained before discharge. Relapsed cases should have double the treatment given in early cases.

GONORRHOEA: One cc. penicillin in oil with monosterate is effective in a high percentage. Blood Wassermann to be checked monthly for 4 months.

GRANULOMA INGUINALE: Streptomycin is the method of choice. All cases should be hospitalized on account of eighth nerve and other complications.

The committee reviewed the subject of the premarital law and advised that it be continued as at present.

This was accepted.

Dr. Horsley said in view of a statement he had made at the first meeting, he had wired the American Medical Association and would like to read the following telegram with regard to Grade B schools:

"Chicago Medical School, 710 South Wolcott Avenue, only unapproved school now in operation.

"Donald G. Anderson, M.D., American Medical Association."

Dr. J. Powell Williams, chairman, read the following supplementary report for the COMMITTEE ON NATIONAL EMERGENCY MEDICAL SERVICE, and this was accepted:

TO THE MEDICAL SOCIETY OF VIRGINIA:

1. At your direction, a conference was arranged with Governor Tuck by the Chairman of your Committee and a copy of the Committee's report on the Chicago meeting was given him. The results of this conference were as follows:

a. At the present time, there is no Civilian Defense Organization in the State of Virginia and the detailed plans of the old organization, which was in effect during the war, up to the present time have been located though there has been much searching. Dr. Edgar Harper, who was the Executive Assistant to the State Commissioner of Health in the organization of the Medical Section of this war plan, has had the fullest possible experience in these matters and has retained detailed notes even to the names and addresses of civilian personnel who cooperated in the plan, which would be invaluable to your new committee and his appointment to the new committee selected by the incoming president is recommended.

b. There is a Disaster Relief Organization in the State headed by Mr. Jesse Dillon, State Treasurer, which has already begun a state-wide survey of agencies, transportation, communications, and resources available, which information will be made available to Civilian Defense when established.

c. It must be presumed that Governor Tuck is awaiting a report from Mr. Hopley's National Security Resources Board with their Master Plan before setting up our local organization, but even at this early date, was in agreement with the Council that Medical representation should be included in the Civilian Defense Organization, and further, that Dr. L. J. Roper, State Commissioner of

Health, whom you had recommended, would fill this position ideally. He has therefore appointed Dr. Roper to this Organization which itself has not yet been set up. I feel that this action on the part of the Governor bespeaks the closest possible liaison with the Medical profession when the time for detailed planning is ripe.

d. There are certain administrative recommendations which your outgoing Chairman feels are of serious importance if your new Committee is to function efficiently:

(1) The inclusion of Dr. Edgar C. Harper has already been mentioned.

(2) The Committee should be expanded to include one member from each Councillor district. This would greatly facilitate medical representation on the local level when detailed plans are set up.

(3) Funds to cover the actual expense of travel should be allocated to this Committee since the prospect would seem to be that once organization begins, much travel to Chicago or to Regional Meetings in Philadelphia will be involved, which would constitute an unfair financial burden to any individual.

e. There are two preliminary activities mentioned in the Chicago report which would probably require the action of the House of Delegates to lend them force and which need not await completion of organization of Civilian Defense.

(1) The acute nursing shortage will undoubtedly become more acute as the Armed Services Procurement Program goes into full swing to man the medical establishments at Reception and Training Centers for inductees. It would seem reasonable then to request the local Red Cross to reactivate the Section of Volunteer Services for the training of nurses aides as soon as possible, and to bespeak the cooperation of all appropriate training centers in this project. Such action now might avoid a later acute situation whether disaster comes or not.

I have conferred with Mr. Julian A. Brooks, Field Director of the Eastern Area of the Red Cross, who assures me that they will gladly cooperate with whatever recommendation this body may make.

(2) The second recommendation of the Chicago meeting was the development of donor groups and blood banks throughout the Nation so that tremendous quantities might be available in emergencies. It is realized that this matter is one which must be settled largely on a local basis since community cooperation is absolutely essential. Your Chairman would suggest however that this Society follow the lead of the A.M.A. in endorsing this activity and appoint a committee or local committees to investigate and cooperate with local groups and report to the Council.

At the present time a blood center has been developed in Norfolk which will supply 18 counties in Southeastern Virginia and Northeastern North Carolina; the center in Washington will supply Northern Virginia; a bank is being developed in Petersburg with Red Cross help which will take care of local demand, but the majority of the State, the central and western sections, are as yet uncovered.

Mr. Brooks tells me that all Red Cross funds for large projects have already been expended for the current fiscal year so that they are at present only in a position to render aid to interested localities rather than to assume the whole financial burden as in Norfolk. This of course makes the matter of the expansion of these facilities entirely one of local option, but the position of the State Society might be made clear and their help and advice offered through the committees mentioned.

f. Finally, the President sent a personal representative to the Regional Defense meeting in Philadelphia, which I could not attend. This committee has received no report of this meeting and Dr. Fisher may have a further supplementary report.

JOHN P. WILLIAMS, *Chairman,*
Committee on National Emergency Medical Service.

Dr. B. A. Hopkins presented a resolution with regard to the Academy of General Practice which was accepted as follows:

WHEREAS, the general practitioner is a necessary part of the practice of medicine, and

WHEREAS, there has been formed a national organization, The American Academy of General Practice, to encourage and improve those engaged in general practice, and

WHEREAS, there has been organized a Virginia Chapter of The American Academy of General Practice; now

THEREFORE BE IT RESOLVED that the House of Delegates of the Medical Society of Virginia endorse and recognize The American Academy of General Practice of Virginia.

The report of the JUDICIAL COMMITTEE as published in the September issue of the MONTHLY was then adopted. The supplementary report which had been presented will be laid on the table until the next meeting in order that it may be published a month in advance. Dr. Rucker presented the following recommendations for changes in the By-Laws which were accepted but also laid on the table for the next meeting:

Article I, Section 1 of the By-Laws to read—Members of the Society are classified as active, life and associate. Active membership is based upon membership in a component society.

Article I, Section 2 of the By-Laws to read—The privileges of voting, holding office, and serving on standing committees is limited to the active and life membership. In all other respects the status of active, life and associate members is the same.

Dr. W. R. Pretlow said the program as set forth by the American Medical Association to meet present economic problems especially with regard to prepaid medical and hospital service was a good one but the doctors are not doing very much about it. There are a good many parts of Virginia which have no coverage and there are many doctors at odds with the various plans. He then presented the following resolutions and moved their adoption:

WHEREAS, the American Medical Association and the Medical Society of Virginia have endorsed Blue Cross and Blue Shield plans, and

WHEREAS these plans constitute an important part of organized medicine's program for meeting the economic problems of modern medicine:

BE IT RESOLVED that the House of Delegates of the Medical Society of Virginia takes cognizance of the following pertinent facts:

1. The State of Virginia is served by several independent Blue Cross plans, which do not have reciprocity with each other and which are not serving the state in a coordinated manner.
2. The State of Virginia is served by two Blue Shield plans, which do not have reciprocity with each other and are not serving the state in a coordinated manner.
3. Only 15 per cent of the population is enrolled in Blue Cross plans. Only 6 per cent of the population of the state is enrolled in Blue Shield plans.

4. Several portions of the state, in reality, have no Blue Cross or Blue Shield service.
5. Very little has been done to meet the problem of enrolling rural people.

BE IT FURTHER RESOLVED that the council of the Medical Society of Virginia appoint a committee, or charge an existing committee with the following functions:

1. To work with all Blue Cross and Blue Shield plans toward the following ends:
   a. That reciprocity between the plans may be established throughout the state.
   b. That Blue Cross and Blue Shield service be made available to all persons in the state.
   c. That an educational and promotional program be sponsored which will result in wide appreciation and use of these plans by the people of our state.
2. To offer its services to physicians or hospitals who have differences which they are unable to settle with the various plans.
3. To consider the advisability of financially aiding the plans to promote the enrollment of subscribers wherever it is found that such promotion is beyond the financial ability of the plans.

Dr. Harrell seconded this motion and stated that he felt this work could well be done by the Public Relations Department. Dr. Hutcheson said his supplementary report for the Judicial Committee is in accord with the ideas which Dr. Pretlow suggested. The functions which he intended to be carried out by this committee will later on belong to the committee on Medical Service. Dr. Hundley felt this is putting into effect a program which has already been approved, and the time has come when more should be done than merely passing resolutions—it is time to get down to real work. He thought the Blue Cross and Blue Shield plans are the only hope of avoiding state medicine. Dr. Horsley stated that commercial insurance companies are putting a great deal of pressure on the Corporation Commission which has control of the Blue Cross plans with the probability of limiting expenses and raising rates. He felt a copy of this resolution should be sent the State Corporation Commission. Dr. Harold Miller felt something should be done with regard to medical care of the indigent. Dr. Mulholland said this plan should work in coordination with the Public Relations Committee. He also stated that a study has been made with reference to medical care of indigent people. However, they need over-all medical care and not just hospital care. This problem is being studied by the Virginia Council on Health and Medical Care and the Welfare Department of the State. He felt the members should actively support this Council in its work. The Society gives money but they need more than that. Dr. Pretlow's motion, being put to vote, was carried.

Dr. E. C. Joyner asked where he could refer his patients to obtain Blue Cross and Blue Shield insurance. Quite often in his office someone will ask where they may obtain this type of insurance and the only thing he can tell them is to write to the Richmond office for an application blank. There is no local representative in Suffolk and consequently quite a number of the people get their insurance from commercial insurance companies. If the Medical Society of Virginia is to go on record as sponsoring and fostering the growth of this type of insurance, he felt it would be a good plan to send application blanks to all doctors in order that they might give them to their patients.

A vote taken on the outstanding general practitioner in Virginia resulted in the nomination of Dr. J. D. Hagood of Clover. Other nominees were Drs. P. St. L. Moncure, C. W. Pritchett, and H. A. Latane.

The Nominating Committee then made the following report:

President-Elect—Dr. W. C. Caudill, Pearisburg.

Vice-Presidents—Dr. C. L. Outland, Richmond.
Dr. W. R. Payne, Newport News.
Dr. J. T. T. Hundley, Lynchburg.

Executive Secretary-Treasurer—Agnes V. Edwards, Richmond.

Councilors from the even numbered districts were elected as follows:

2nd—Dr. C. L. Harrell, Norfolk.

4th—Dr. W. J. Ozlin, South Hill.

6th—Dr. J. T. T. Hundley, Lynchburg.

8th—Dr. V. W. Archer, University.

It was moved and carried that Dr. J. M. Hutcheson and Dr. Carrington Williams, both of Richmond, be renamed as delegate and alternate, respectively, to the American Medical Association. Dr. H. B. Mulholland and Dr. W. B. Martin hold over for another year.

It was announced that it is necessary to name a member of the State Board of Medical Examiners for the fifth district, to be submitted to the Governor. Dr. B. A. Hopkins moved that Dr. W. J. Hagood be re-appointed. When told that three names must be submitted, Drs. John A. Shackelford and W. A. Porter were also named.

Invitations for the 1949 meeting had been received from the Chamberlin Hotel and The Cavalier. Someone suggested Roanoke as a place for the meeting whereupon the delegates from that city said they would be glad to help in any way possible should the Society wish to come there for the next meeting. There was some discussion with regard to the feasibility of these as meeting places, and it was moved and carried that a committee be appointed by Dr. Rucker to investigate the advantages of the Chamberlin and The Cavalier and report to the Council.

Dr. Hundley presented the following resolution which was unanimously carried:

Be it hereby moved that the House of Delegates express its hearty appreciation of the efficiency and hospitality of the Richmond Academy of Medicine and the Richmond Hotels Corporation, which have contributed so materially to the profit and pleasure of this meeting.

Dr. George Duncan presented the following resolution which was adopted:

WHEREAS, Dr. Clarence Porter Jones of Newport News, Virginia, has given faithfully of his time to the Medical

Society of Virginia, for the past nineteen years as chairman of the Committee on the preservation of Belroi, the birthplace of Walter Reed, and

WHEREAS, largely through his efforts this home has been restored and preserved as a shrine, and

WHEREAS, Dr. Jones is now retiring from the chairmanship of this Committee.

THEREFORE, BE IT RESOLVED, by the House of Delegates that the Medical Society of Virginia go on record as expressing its grateful appreciation for his untiring efforts in the perpetuation of what should be a national shrine.

Dr. Mulholland read the following resolution:

WHEREAS, the practice of rebating by any member of the medical profession is condemned by the American Medical Association and is regarded by the general public as an unethical and otherwise undesirable practice, and

WHEREAS, ammunition for discussion of this on the part of the lay-public has been so generously appropriated in recent months by press references to rebating, and

WHEREAS, it is desirable that the lay-public be reassured of the attitude of members of the medical profession on this subject in Virginia.

BE IT THEREFORE RESOLVED, that the House of Delegates of the Medical Society of Virginia go on record reaffirming their condemnation of this practice.

Dr. Harrell did not think Virginia physicians were guilty of much rebating but moved that this resolution be accepted. Carried.

Dr. Mulholland said there was a resolution last year with regard to expediting some of the business of the House and he did not feel this had been carried out. Dr. Fisher said that a committee had been appointed to study this. It was moved and carried that delegates have special ribbons to use with their other badges.

Dr. Harrell presented the following resolution:

WHEREAS, the office of member of the District Council in the Medical Society of Virginia is provided for in our Constitution and By-Laws without a reference to how they shall be brought into office or the length of term they shall serve.

BE IT THEREFORE RESOLVED, that the House of Delegates at its annual meeting in October, 1948, go on record favoring any necessary amendments of the Constitution and By-Laws so as to specify that members of the District Council, representing local medical societies, shall be elected by the membership of the respective societies prior to September 30. That members of the District Council for counties in which there is no society shall be appointed by the Councilor for their Congressional District prior to September 30. The term of office for members of the District Council will be one year, ending September 30. They shall be eligible to succeed themselves and their duties shall be to work with and under the direction of the Councilor for the District.

This was accepted.

Dr. Hamner presented resolutions and told of the conviction of Mr. Bonavitch in Amelia County and the prosecution of other unlicensed practitioners. Dr. Habel said Mr. Bonavitch is not out of commission and is still practicing. The resolution was accepted as follows, and Dr. Hundley moved that copy be sent to the State Board of Pharmacy.

WHEREAS, the medical profession in Virginia is keenly aware of the dangers of permitting the practice of medicine and the practice of pharmacy without proper evidence of competency, and

WHEREAS, steps were taken recently to forbid the practice of both of these in Virginia by an individual referred to by many as a Doctor, and

WHEREAS, those processes were effected by the initiative and diligence of the State Board of Pharmacy and the Commonwealth Attorney of Powhatan County.

BE IT THEREFORE RESOLVED, that the House of Delegates of the Medical Society of Virginia, in its 1948 session, commend the State Board of Pharmacy and the Commonwealth Attorney of Powhatan for the prosecution of Joseph Bonavitch on the charges of practicing pharmacy without a Virginia license and practicing medicine without a Virginia license, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the Governor and each Commonwealth's Attorney of Virginia.

There being no further business, the House adjourned.

AGNES V. EDWARDS, *Secretary.*

Approved

GUY R. FISHER, *President.*

Auditor's Report

October 1, 1947—September 30, 1948

THE OFFICERS AND COUNCILORS,
MEDICAL SOCIETY OF VIRGINIA,
RICHMOND, VIRGINIA.

GENTLEMEN:

We have made an examination of the books of the MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia, for the fiscal year ended September 30, 1948, and have prepared therefrom the three accompanying exhibits. The scope of the examination is explained in the following comments.

The assets and liabilities of the Society at September 30, 1948, are stated in the Balance Sheet, Exhibit "A", and the income and expenses for the fiscal year ended at that date, on the cash receipts and disbursements basis, are shown in Exhibit "B".

Yours very truly,

MITCHELL, WIGGINS & SMITH,
By J. SYDNOR MITCHELL,
Certified Public Accountant.

Financial Condition

The financial condition of the Society at September 30, 1948, is given in the Balance Sheet, Exhibit "A", a summary of which is supplied below in comparison with that at September 30, 1947:

ASSETS	9-30-48	9-30-47
Cash	$32,196.48	$36,756.49
Accounts Receivable	1,937.48	1,994.88
Investments—U. S. Bonds	47,692.44	31,649.50
TOTAL	$81,826.40	$70,400.87

LIABILITIES AND SURPLUS		
Liabilities:		
Accounts Payable	$ 1,378.39	$ 857.00
Surplus:		
General Fund	69,892.13	55,074.31
Special Legislative Fund	10,555.88	14,469.56
TOTAL	$81,826.40	$70,400.87

Operations

The income and expenses of the General Fund for the fiscal year ended September 30, 1948, are shown in Exhibit "B", prepared on the cash receipts and disbursements basis, a summary of which is shown below in comparison with the preceding year:

INCOME	9-30-48	9-30-47
Membership Dues	$41,892.87	$36,327.35
Medical Monthly Publication	15,500.82	17,656.25
Miscellaneous	430.81	637.34
TOTAL	$57,824.50	$54,620.94

EXPENSES	9-30-48	9-30-47
Executive Office	$25,325.17	$21,673.77
Public Relations Department	17,775.72	17,407.80
TOTAL	$43,100.89	$39,081.57
SURPLUS INCOME FOR THE YEAR	$14,723.61	$15,539.37

The receipts and disbursements of the Legislative Committee Special Fund are stated in Exhibit "C".

Scope of Examination

All recorded receipts were accounted for by bank deposits, and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1948, were confirmed by statements on file from depositories as follows:

GENERAL FUND	
First and Merchants National Bank—Checking Account	$18,626.34
First and Merchants National Bank—Savings Account	5,433.41
The Bank of Virginia—Savings Account	6,806.04
Southern Bank and Trust Company—Savings Account	953.81
TOTAL	$31,819.60

LEGISLATIVE COMMITTEE—SPECIAL FUND	
First and Merchants National Bank—Savings Account	$ 376.88

Investments, consisting of United States Savings Bonds and United States Treasury Bonds, were verified by inspection of the securities on hand. The Savings Bonds are shown in the Balance Sheet at their current redemption value and the Treasury Bonds purchased in March 1948 are shown at cost.

Insurance in force at September 30, 1948, determined from policies on file, was as listed below:

Office Furniture and Fixtures	$1,000.00
Walter Reed House, Belroi, Virginia	1,000.00
Fidelity Bond, Secretary-Treasurer	2,500.00

Balance Sheet—September 30, 1948
Exhibit "A"

ASSETS

CASH		
General Fund	$31,819.60	
Special Fund—Legislative Committee	376.88	$32,196.48
DUE FROM MEMBERS (Estimated Collectible Value)		
1948 Dues—40 @ $25.00		1,000.00
ACCOUNTS RECEIVABLE		
Virginia Medical Monthly for Advertising		937.48
INVESTMENTS		
United States Savings Bonds:		
General Fund	$22,265.00	
Special Fund—Legislative Committee	10,179.00	
United States Treasury Bonds:		
General Fund—Cost	15,248.44	47,692.44
		$81,826.40

LIABILITIES AND SURPLUS

LIABILITIES		
Accounts Payable:		
Preparation of Medical Journal—September, 1948 Issue	$ 1,316.93	
Social Security Tax	61.46	$ 1,378.39
SURPLUS		
General Fund	$69,892.13	
Special Fund—Legislative Committee	10,555.88	80,448.01
		$81,826.40

Statement of Income and Expenses
For the Fiscal Year Ended September 30, 1948
Exhibit "B"

GROSS INCOME	ACTUAL	BUDGET
Membership Dues	$41,892.87	
Royalties on History of Medicine in Virginia	109.68	
Interest on Savings Accounts and Securities	321.13	
Virginia Medical Monthly:		
Advertising	15,120.52	
Subscriptions from Non-Members	380.30	
TOTAL GROSS INCOME	$57,824.50	

EXPENSES		
Executive Office:		
Salaries	$ 6,400.00	$ 6,400.00
Bonuses for Year Ended September 30, 1947	600.00	600.00
Office Rent	600.00	600.00
Telephone and Telegraph	204.84	200.00
Stationery and Office Supplies	149.24	175.00
Repairs and R placements	63.96	150.00
Postage	266.65	300.00
Audit Fee	90.00	90.00
Social Security Tax	56.00	60.00
State Convention and Commercial Exhibits	116.14	700.00
Delegates to A.M.A.	594.62	600.00
Councilors' and Secretary's Expense	357.90	357.90
President's Expense	12.68	100.00
President-Elect's Expense	----	50.00
Special Appropriations by Council and President:		
Medicine in Virginia	995.45	995.45
Fifty Year Club	382.45	382.45
Miscellaneous	88.20	75.00
Preparation and Distribution of Medical Journal	12,519.08	13,000.00
Walter Reed Commission	31.00	75.00
Clinical and Medical Education	200.00	1,200.00
Maternal Health	71.66	100.00
Cancer Control	199.83	175.00
Scientific Exhibits	375.35	750.00
President's Contingent Fund	100.00	500.00
Virginia Council on Health and Medical Care	500.00	500.00
New Filing System	350.12	350.00
TOTAL—EXECUTIVE OFFICE	$25,325.17	$28,485.80
Public Relations Department:		
Salary—Director	$ 7,000.00	$ 7,000.00
Salaries—Personnel	3,340.87	3,000.00
Traveling Expense	1,382.10	2,000.00
Conferences	491.70	1,000.00
Radio Programs	1,416.00	3,500.00
Press—Advice, Space, Etc.	963.23	4,000.00
Printing, Literature, and Bulletins	472.50	3,000.00
Telephone and Telegraph	666.95	1,000.00
Office Rent	600.00	600.00
Stationery and Office Supplies	599.84	500.00
Postage	454.00	1,000.00
Office Equipment	132.18	500.00
Miscellaneous	199.39	1,000.00
Social Security Tax	56.96	-------
TOTAL—PUBLIC RELATIONS DEPARTMENT	$17,775.72	$28,100.00
TOTAL EXPENSES	$43,100.89	$56,585.80
SURPLUS INCOME FOR THE YEAR	$14,723.61	

Legislative Committee Special Fund Receipts and Disbursements For Fiscal Year Ended September 30, 1948

Exhibit "C'

BALANCE—October 1, 1947		$ 4,412.06
RECEIPTS		
Membership Dues @ $2.00 Each	$ 34.00	
Interest on Savings Account	35.22	69.22
TOTAL AVAILABLE		$ 4,481.28
DISBURSEMENTS		
Legal Service and Expenses		4,104.40
BALANCE—September 30, 1948		$ 376.88
FUND ASSETS—September 30, 1948		
Cash in Bank	$ 376.88	
U. S. Government Bonds	10,179.00	
TOTAL	$10,555.88	

Floral Eponym

BOUVARDIA

BOUVARD, CHARLES, 1572-1658

Bouvardia is a genus of 30 species of attractive greenhouse shrubs of the madder family. They are natives of Mexico, Central America and northern parts of South America.

Dr. Bouvard was a Professor of the College de France, Superintendent of the Jardin des Plantes and Physician to Louis XIII. He was said to have had an imperialistic manner.

EDITORIALS

Dr. Stuart McGuire

WHEN Starr King, the noted Unitarian preacher, was advised to husband his physical efforts, he replied "I have only one life to live and now is my time to spend it."

Considering Dr. McGuire's physical handicap, and because of it he was forced to undertake and conclude his medical studies often on a day bed, it is, we think, amazing that he should have done so much and advanced so far in his sphere of accomplishments. The body was not robust so nature bestowed on him more than an average of intellect—clear headed, practical, competent and buttressed by a fine cultural background.

However, these superhuman accomplishments can be envisaged only when viewed in the light of his indomitable will and his power to readily focus his attention and activities on the duties of the hour.

Exhibiting a passionate zeal for system, order and concentrated effort, his intent and courage ever spurred him on in an earnest quest for his goal. Who among us can say that he did not, in recognition of his physical limitations and his desire to service his fellowmen, conclude that he too had "only one life to live and now is my time to spend it."

Dr. Stuart, by which name we know him best, was President of the Medical Society of Virginia in 1909. Dr. W. F. Drewry said, on retiring from the presidency, "He (Dr. McGuire) is one of the highest, most capable and noblest men I have ever known." After his graduation from the University of Virginia, his father said to him, "Stuart, if you live long enough and work hard enough I hope that some day you will be president of the society." From that hour the position had been the goal of his professional ambition.

He was the third McGuire to preside over the destiny of the association within thirty years. Dr. Hunter McGuire (his father), Dr. William P. McGuire (his uncle), and Dr. Stuart McGuire formed the trisemic reign.

Dr. McGuire was the first president elected under the new revised Constitution. Some years before he had endeavored to have the Constitution amended so that a local man could not be elected by local delegates. Had the change not been made the year before, Dr. Stuart would not have accepted the presidency. In his official address, he stated that the society had increased in membership and it was evident that only two cities in the state were large enough to accommodate the society—Richmond and Norfolk. He also said that the association should have a home office and added that the Richmond Academy of Medicine was contemplating a home for itself and "if permitted to do so I am sure it would cooperate with the State Society and give it space for its business affairs." From that moment he led the movement for both and in 1932, twenty-three years later, the home became a reality. Dr. McGuire contributed $15,000 to the enterprise and, in recognition of his interest, the membership of the Academy placed an oil painting of him in the front room of the building.

The writer recalls a statement made by Dr. William J. Mayo on the porch of the old Virginia Hospital. A group, Drs. Hugh Taylor, Ned McGuire, Paulus Irving, and McGuire Newton, stood about Dr. Mayo. He had just concluded a lecture on cancer of the stomach. Dr. Stuart left the group to secure a chart. Dr. Mayo stated that "Stuart McGuire exhibits in his operations the finest technique of any surgeon of his age in America."

We clearly recall Dr. McGuire's paper at the 1912 session of the Medical Society of Virginia.—"Tradition versus Embryology in Congenital Malformations". "Seventeen years before a baby with three legs was brought to my father . . . (all) of equal size and length." The mother was advised to bring the child back for operation when two or three years old. This was not done, but in 1912 a strapping 150 pound young man consulted Dr. Stuart. The boy's pride and the fact that he had grown tired of daily anchoring that third leg to his chest made him seek the surgeon and an operation. He made a perfect recovery. The presentation of the paper fascinated his audience. "For him the teacher's chair became a throne." He drew illustrations from the Bible, fiction, and philosophy. He showed that Jacob, Dickens, Goethe and Scott were firm adherents to the idea of maternal impressions.

His second paper created interest and much discussion—"Last Fifty Cases of Goiter Operated On". While not the first, he was among the first to use the Kocher method. When Kocher began his work, his first seventy cases gave a mortality of 40 per cent. Mayo in his first 16 cases showed a mortality of 25 per cent. Kocher, however, continued with improvement in his technique till out of 1000 operations, he reduced his mortality to .4 of 1 per cent.

Many other papers followed and in his own inimitable way expressed his culture and his mastery of the subject.

Briefly—

He gave of time and talent to civic activities.

The history of the University College of Medicine and the Medical College of Virginia can never omit or overlook his great service to those institutions.

His life was "a triumph of character" (Freeman) over physical ills.

In the summary of debate or lecture he was matchless.

He gave fine loyal service as head of Base Hospital #45 in the 1918 conflict.

He was a member of the official body that selected the Catawba site for the treatment of tuberculosis.

As a professor and teacher his subject matter was always understood and information came not from hours of tire in text book study but from an attentive listening ear.

Calm, daring, frank, alert, yet because of his fine tact he gave no offense and brought about no division or strife.

Regret on his passing and the tribute of the moistened eye come from those who knew and loved him.

R. W. MILLER

Diabetes Week

THE week beginning December 6th has been set by the American Diabetes Association for especial effort to inform the medical profession and the public of the importance of recognizing diabetes early. From surveys made in Massachusetts and elsewhere, the United States Public Health Service estimates that there are in the United States and Canada one million unrecognized cases of diabetes. At the last annual meeting of the American Medical Association, the Diabetes exhibit showed graphically that the mortality rate for diabetes, first seen when a complication had already occurred, was three times the rate for diabetes first seen before impairments had developed. Diabetes ranks eighth among the leading causes of death. In Virginia in 1945 (the last report of the State Department of Health) there were 572 deaths from diabetes, a rate of 20.4. This was an increase over the preceding year.

The detection of diabetes in an early stage is the province of all practicing physicians. The American Diabetes Association and its President. Dr. Charles H. Best,

are anxious to promote this cause in every way possible. They are preparing material for medical meetings, radio broadcasts and spot radio announcements, and suggestions for cooperation with local hospitals toward the control of diabetes. They hope that the Committees on Post Graduate Instruction in State and County Societies will plan instruction and demonstration in diabetes. It is hoped that the local societies will appoint Committees on Diabetes, if they have not already done so. The Public Relations Committee should plan meetings for instruction of laymen. The gospel of early diagnosis should appeal especially to women for that disease has a peculiar predilection for the gentler sex. The Woman's Auxiliary can be of great help in this campaign. We must find the million diabetics.

The One Hundred and First Annual Meeting

THE one hundred and first annual meeting, October 18-20, was noteworthy in several respects. In the first place, it was the largest meeting in the history of the Medical Society of Virginia. Eight hundred and fifty-six physicians attended. In addition there were 156 physicians' wives and 90 exhibitors; a total registration of 1102. Almost one half of the entire membership attended the Richmond session. Such attendance is very gratifying, but it carries with it serious limitations on possible meeting places in the future. Few places in the State can accommodate conventions of such size. In the second place, the Society for the first time honored physicians who have been in practice for fifty years or more. One hundred and twenty-three such physicians are members of our Society. Each was given a certificate of merit and was made a life member. A life member has all the privileges of an active member except the payment of dues. The presence of fifty-three of this fifty year class in a body on Monday evening added a touch of glamour to the occasion. In the third place, the Society for the first time selected its "outstanding general practitioner". Each component Society was invited to name a candidate for this honor, from whom the House of Delegates would select one to present to the House of Delegates of the American Medical Association. Dr. J. D. Hagood of Clover was selected.

In the fourth place, Dr. Vincent Archer and his Committee assembled an outstanding scientific exhibit. The Marshall Room of the John Marshall Hotel was filled with the various exhibits. The booths were attractive in their uniformity, were well lighted and labeled attractively. The subject matter ranged from rural health to atomic energy. For the first time there was a Committee of Awards and this Committee gave the first award to Dr. Leroy Smith for his exhibit of plastic surgery. The second award was given to the Medical College of Virginia Surgical Research Laboratory for its exhibit of the application of radio active tracers to medicine, and the third award to Dr. James B. Funkhouser of McGuire Veterans Administration Hospital for his exhibit of electroencephalograms.

There were as many commercial exhibits as space would permit and they added to the entertainment and enlightenment.

The program was a good one and every session was well attended. Unfortunately the program committee has not as yet worked out a satisfactory time for the meeting of the House of Delegates, and the members of that body had to miss most of the scientific session on Tuesday morning. That is one of the problems for the new program committee. The incoming President set three goals for the Society: (1) a membership drive for 100 per cent of the qualified doctors in Virginia; (2) the es-

tablishment of local health councils through the State; (3) extension of pre-paid hospital care and medical care so that these plans will be available to every citizen in Virginia.

The perfect weather and excellent hotel service added much to everyone's enjoyment. Dr. Fisher's meeting will go down as an extraordinarily good meeting which will be hard to beat.

Medicine of the Year

ELSEWHERE in the Journal will be found an announcement of MEDICINE OF THE YEAR, an annual review of medical progress to be issued as a supplement to the *Virginia Medical Monthly* appearing early in 1949. The Society has provided this feature for its members in the belief that it constitutes a valuable educational opportunity at small expense and one which will be a distinct benefit to all who subscribe. The contributors are all men of outstanding reputation in their field, distinguished as teachers and medical writers. Their names guarantee a comprehensive and critical account of the significant and important events in medicine during the preceding year, well-written and of practical interest to every physician. The cost is nominal.

The arrangement by which this annual review is made available to members of the *Medical Society of Virginia* requires that a certain proportion of the members subscribe to this service if it is to be provided. The value of the service is sufficient reason for subscribing. However, because of the short time remaining in which to ascertain the number of subscribers, it is urged that subscriptions be entered promptly in order that a sufficient number are obtained to insure that the annual will be available to all who wish it. SUBSCRIBE NOW!

Seventy-five Years Old

This issue of the MONTHLY completes the seventy-fifth volume of continuous publication. It was established in April 1874 but, for filing use in libraries, one volume included only nine months so as to have the volume coincide with the calendar year. For twenty-two years of its seventy-five, it was published as a semi-monthly.

It has been the medical journal in which many authors have published their first articles and it numbers many authors of renown among its contributors. We bespeak your continued support in keeping it up to a high standard.

SOCIETIES

The Alexandria Medical Society

At its meeting on October 14th, selected Dr. H. A. Latane as the outstanding general practitioner in Alexandria. The meeting was addressed by Mr. Albert Smoot, member of City Council on "The Medical Needs of Alexandria". In view of the sharp criticism of the Alexandria Health Department by a survey made recently his talk was very timely. Mr. Smoot has been a principal actor in most civic improvement movements in Alexandria and is perhaps the best informed person on the subject of his talk. The result of this meeting was the appointment of a coordinating committee to meet with public and private health agencies to advise the city on Public Health improvements.

At its regular meeting on November 11, Dr. Calvin Klopp, director of the Warwick Clinic in

Washington, D. C., spoke on recent advances in cancer detection and treatment.

The committee of the Society for coordination of public and private health agencies held a public meeting on Wednesday, November 10. At this meeting attended by members of all service clubs, churches, lodges, health agencies, and city officials, the needs of the city of Alexandria were energetically defined. This meeting and the activities of the Society's committee in this sphere is an outgrowth of the recent adverse report on the Public Health Department of Alexandria and the needs of the city revealed thereby. Mr. Albert Smoot, a member of the City Council, suggested the need of the coordinating committee to the Society in an address at the regular meeting in October of this year.

BEN C. JONES,
Secretary-Treasurer

Arlington County Medical Society.

At the October meeting Dr. J. Edward Payne spoke on "The Coronary Arterial System in Health and Disease", illustrating his points with slides loaned for the occasion by Dr. Monroe J. Schlesinger, chief pathologist at Beth Israel Hospital, Boston, where Dr. Payne did much of his postgraduate work in cardiology. Dr. Payne stressed the new coronary injection methods as advocated by Schlesinger and described the new grouping of coronary types as found at autopsy. Dr. William T. Gill, Jr., Washington, D. C., opened the discussion which was also furthered by remarks by Dr. William Ober, who is a member of Dr. Schlesinger's group at Harvard Medical School and who is on loan to the Cancer Research section of U. S. Public Health.

LEO SOLET,
Secretary-Treasurer

The Augusta County Medical Society

Held its quarterly meeting at the General Wayne Hotel, Waynesboro, on November 3rd. Dr. A. H. Taylor, Brownsburg, presented a very interesting case report on Erythema Multiforme. Dr. William R. Jordan, Richmond, was the invited guest and gave a very interesting paper on the Management of Diabetes.

Fairfax County Medical Society.

The following officers were recently elected for the ensuing year: President, Dr. H. G. Snead; vice-president, Dr. John Nestor; treasurer, Dr. Emanuel Newman; and secretary, Dr. Richard E. Kelso. All are located in Falls Church.

The Lynchburg Academy of Medicine, Inc.

Met in regular session on October 4, with Dr. E. S. Groseclose, vice-president presiding.

Dr. S. D. Sturkie, formerly Health Officer of Lynchburg, but now Director of The Joint Health Department in Charlottesville, was granted a transfer to the Albemarle County Medical Society.

Dr. Byrd Leavell, assistant professor of medicine, of the University of Virginia Medical School, presented an interesting and informative paper, well illustrated with lantern slides, on "Some Problems Associated with Splenomegaly".

The president, Dr. H. L. Riley, Jr., presided at the meeting on November 8, at which time Dr. William F. Wagner, director of the Division of Tuberculosis Control of the State Department of Health, spoke on the need for a statewide tuberculosis survey and the projected mass X-ray survey of all adults over 15, to be inaugurated in 1949.

Dr. Robert Craig Shelburne of Madison Heights was elected to full membership in the Academy.

JOHN T. T. HUNDLEY,
Secretary

The Mid-Tidewater Medical Society

Met at Tappahannock on October 26, with Dr. J. R. Gill presiding.

Dr. M. P. Rucker, recently installed president of the Medical Society of Virginia, honored our Society by making his first "pastoral" call on us. He outlined briefly what he hoped to accomplish for the society in the coming year.

Dr. J. M. Hutcheson gave an impromptu, but lucid discussion on the problem of State Medicine.

A nominating committee was appointed by Dr. Gill consisting of Drs. A. W. Lewis, Sr., Harry Tabb, and James Smith. Following recess for dinner this committee presented the slate of officers for the coming year: President-elect: Dr. J. W. Chinn, Tappahannock; Vice-Presidents: Drs. J. M. Gouldin, Tappahannock; A. L. VanName, Urbanna; John R. Gill, Mathews; J. W. Smith, Hayes Store; C. Campbell, Sparta; R. D. Bates, Newtown; A. W. Lewis, Jr., Aylett; and Secretary-Treasurer, Dr. W. H. Hosfield, West Point.

Dr. M. H. Harris, West Point, will succeed to the Presidency in January.

Dr. Fred Hodges of Richmond gave an informal discussion on: "Several Conditions Which Have Impressed Me in X-ray". Dr. William Johns spoke on "Rectal Lesions". Both of these papers were well received and commented on by several of those present.

The meeting was then adjourned to meet in West Point the fourth Tuesday in January.

W. H. HOSFIELD

Northern Neck Medical Society.

The following officers were recently elected for the coming year: President, Dr. Motley Booker, Lottsburg; vice-presidents, Drs. P. P. Deming, Colonial Beach, and E. T. Ames, Montross; secretary-treasurer, Dr. Lee S. Liggan, Irvington (re-elected).

Patrick-Henry Medical Society.

Following the transaction of routine business at the quarterly meeting of this society early in October, the election of officers was held and the following unanimously elected to serve next year: President, Dr. Henkel M. Price, Martinsville; vice-president, Dr. L. A. Faudree, Bassett: and secretary-treasurer, Dr. John W. Clark, Martinsville.

Dr. G. B. Dudley then introduced Dr. Charles A. Young of Roanoke, guest speaker for the evening.

Wise County Medical Society.

The Six Sisters of St. Mary's Hospital, Norton, entertained this Society at the Hotel Norton on the evening of November 10th. Thirty-four enjoyed a steak dinner with all the things that go with it.

After a snappy discussion, vote to change the Constitution and By-Laws, so as to admit to membership hereafter only graduates of Grade A. medical schools, was 12 to 12, as some did not vote. Two-thirds vote was necessary to make such a change, therefore this failed.

Two films, the Conduct of Normal Labor and the Treatment of Eclampsia made by the staff of Dr. DeLee at the Chicago-Lying-In Hospital were presented.

The Secretary reported on the state meeting at Richmond in October. The next meeting will be held at Norton.

T. J. TUDOR,
Secretary

The Montgomery County Medical Society

Held a banquet meeting on October 28th at the Governor Tyler Hotel in Radford. Dr. Edgar Weaver of the University of Virginia spoke on "Mass Intracranial Lesions" and Dr. G. M. Maxwell, Roanoke, on "The Treatment of Fractures in the Aged".

The Shenandoah County Medical Society

Has resumed monthly meetings after a long interval, and Dr. G. G. Crawford of Strasburg was elected president and Dr. C. L. Gossels of Mount Jackson secretary. At the October meeting in New Market, Dr. C. C. Powel of Harrisonburg spoke on Pyloric Stenosis in Infants.

The November meeting was held in Strasburg at which time there was a symposium on Gallbladder Disease. Those participating were Drs. J. B. McKee, J. C. Hortenstine, Leslie M. Bell and John M. Adams, all of Winchester.

The South Piedmont Medical Society

Held its Fall meeting in Danville on November the 10th with a good attendance. The program listed below was followed by dinner.

DR. EDWIN A. HARPER, Lynchburg—Comments on the Pediatric Survey

DR. JOHN R. EGGLESTON, Danville—Paroxysmal Tachycardia in an Infant

DR. R. EARLE GLENDY, Roanoke (INVITED GUEST)—Advances in the Diagnosis and Treatment of Cardiovascular Disease during the Past Quarter Century

DRS. SNOWDEN C. HALL, JR., and THOMAS J. MORAN, Danville—Clinico-Pathological Conference

DR. JOHN W. DEVINE, JR., Lynchburg—Head Injuries

Dr. Snowden C. Hall of Danville is president and Dr. George B. Craddock of Lynchburg secretary-treasurer.

Virginia Peninsula Academy of Medicine.

There was an attendance of sixty physicians at the dinner meeting of the Academy on October 18, held in the Coca Cola Building in Newport News. Dr. G. G. Hankins of that city presided and Dr. William A. Read was at the secretary's desk.

Upon invitation of Dr. Will Tankard of Newport News, the guest speaker was Dr. Bentley P. Colcock, of the general surgical staff of the Lahey Clinic, Boston. His subject was "Surgery of the Large Bowel" in which he particularly stressed the advantages of the one stage operation. He concluded his address with some remarks on the mod-

ern management of thyrotoxicosis as practiced at the Clinic.

At the meeting of the academy on November 15, Dr. Harry St. George Tucker, Associate in Medicine, Medical College of Virginia was the guest speaker, his subject being Edema. His discussion covered the various mechanisms involved, the probable causes, and the treatment of the different types. Dr. Tucker came on the invitation of Dr. Waverly Payne of Newport News. Sixty-five physicians were present.

NEWS

State License Tax on Physicians.

In May 1948, the MONTHLY carried an article by Robert C. Duval, Jr., attorney, entitled "Medical Legislation in the 1948 General Assembly". One paragraph was with regard to a State License Tax on Physicians, effective January 1, 1949, and because of its importance, we reproduce it here:

STATE LICENSE TAX ON PHYSICIANS

The State license tax on physicians was reimposed at this session, the act providing that "every practicing medical doctor" shall obtain a revenue license. A license for any county or city shall authorize practice throughout the Commonwealth. During the first five years of practice and for any year following a year in which receipts are less than $500.00, the tax shall be fifteen dollars per year. After five years of practice the tax shall be twenty-five dollars per year. No tax is imposed on any medical doctor who has practiced medicine regularly since January 1, 1909. The act is made applicable for the license year 1949 and subsequent years. The words "medical doctor" are not defined in the act, and the construction in favor of the taxpayer given taxing statutes may make it difficult to determine what practitioners are included in the provisions of the act.

The Richmond Meeting

Of the Medical Society of Virginia was the most largely attended of any in the history of this organization, there having registered eight hundred and fifty-six doctors, one hundred and fifty-six ladies, and ninety technical exhibitors—a total of 1102. Alumni dinners and special society luncheons and meetings added greatly to the interest of those attending. Outstanding was the presentation, for the first time, of engraved certificates to members of the Society who had practiced for fifty years or more. This brought out a number of doctors who had not attended meetings in some years.

The business sessions were well attended as also the scientific sessions at which were presented papers on a variety of interesting subjects. Exhibits, both scientific and technical, were attractively displayed and had many visitors. The editorial on the meeting in this issue tells of awards made for exhibits. Business matters are presented in the minutes.

Dr. M. Pierce Rucker of Richmond succeeded to the presidency and Dr. W. C. Caudill of Pearisburg was named president-elect.

Special Society Meetings.

As has been customary for some years, alumni of Virginia's two medical schools and several specialty societies held dinners and luncheons at the time of the State meeting in Richmond.

MEDICAL COLLEGE OF VIRGINIA

There was an attendance of two hundred and twenty-six alumni and guests at the dinner meeting on October 18, at which Dr. Harvey B. Haag, dean of the school of medicine presided. Speakers at the meeting were Dr. William T. Sanger, president, and Miss Sybil MacLean, dean of the School of Nursing.

UNIVERSITY OF VIRGINIA

Dr. Allen Barker of Roanoke presided at the dinner meeting of the University which was attended by one hundred and eighty-eight. Dr. Hugh H. Trout, Sr., Roanoke, praised the accomplishments of Dr. H. E. Jordan during his period of office, and outlined the career and qualifications of the in-coming dean, Dr. Vernon W. Lippard. Drs. H. B. Mulholland and V. W. Archer discussed plans for the development of the medical school.

THE VIRGINIA ACADEMY OF GENERAL PRACTICE

Had a luncheon and business meeting on October 19 at the John Marshall Hotel, with Dr. W. L. Powell of Roanoke presiding. The majority of the one hundred and six general practitioners who

attended had joined or joined the Academy at this time. The principal business concerned the reports of officers and committees relative to work during the year. Dr. J. L. Hamner, Mannboro, was installed as president, and Dr. J. D. Hagood of Clover was named president-elect. Dr. John O. Boyd, Jr., of Roanoke and Dr. Wm. R. Pretlow of Warrenton were re-elected secretary and treasurer. Directors elected from the 1st, 4th and 7th Districts respectively are Dr. N. D. Nelms of Hampton, Dr. W. J. Ozlin of South Hill, and Dr. Harold W. Miller of Woodstock. Dr. C. P. Jones, Jr., of Newport News was elected for two years and Dr. N. F. Rodman of Norfolk for one year to represent the Academy at the Congress of Delegates of the American Academy of General Practice.

VIRGINIA SECTION, AMERICAN COLLEGE OF PHYSICIANS

Luncheon and a short business meeting were held by the Section on October the 19th at John Marshall Hotel. Dr. A. Brownley Hodges of Norfolk was elected chairman for the coming year and Dr. James F. Waddill of Norfolk was re-elected secretary. The next meeting will be held in the early winter in Norfolk, the date to be announced later.

VIRGINIA SOCIETY FOR CHEST PHYSICIANS

Dr. Walter L. Nalls of Alexandria was the guest speaker at the luncheon meeting of this Society, his subject being "Pneumoperitoneum in the Treatment of Tuberculosis". The following officers were carried over until the next meeting which will be in the Spring: President, Dr. Dean B. Cole of Richmond; vice-president, Dr. E. C. Drash, Charlottesville; secretary-treasurer, Dr. Charles W. Scott, Burkeville.

VIRGINIA OBSTETRICAL AND GYNECOLOGICAL SOCIETY

At the luncheon meeting of the Society during the State Society meeting, Dr. Walter McMann of Danville was installed as president; Dr. Richard B. Nicholls of Norfolk was named vice-president-elect; and Dr. L. L. Shamburger of Richmond was elected secretary-treasurer.

VIRGINIA ORTHOPEDIC SOCIETY

At the luncheon meeting of the Virginia Orthopedic Society, Dr. George A. Duncan of Norfolk was elected president, and Dr. Charles J. Frankel of Charlottesville was made secretary-treasurer.

VIRGINIA SOCIETY FOR PATHOLOGY AND LABORATORY MEDICINE

This Society had a program meeting followed by luncheon and then other papers. Drs. Russi and Cochran of McGuire General Hospital, Richmond, spoke on Gastro-esophageal Adeno-Acanthoma; Dr. E. D. Levy of Norfolk General Hospital on Acrodynia Due to Mercury Poisoning; Dr. L. J. Motyca of Norfolk on Acute Pancreatic Necrosis Associated with the Bacillus Infection; and Dr. T. M. Scotti of the Medical College of Virginia on Letterer-Siewe's Disease and Gaucher's Disease.

Officers elected for the ensuing year are: President, Dr. J. H. Scherer, Richmond; vice-president, Dr. A. F. Strauss, Norfolk; and secretary-treasurer, Dr. M. L. Dreyfuss, Clifton Forge.

VIRGINIA PEDIATRIC SOCIETY

At the annual luncheon meeting of this Society on the 19th of October, the following officers were elected: President, Dr. Charles P. Brown, Norfolk; vice-president, Dr. McLemore Birdsong, Charlottesville; secretary-treasurer, Dr. E. Berkeley Neal (re-elected), Roanoke.

THE VIRGINIA RADIOLOGICAL SOCIETY

At its luncheon meeting, elected Dr. Charles H. Peterson of Roanoke president; Dr. George Cooper, Jr., Charlottesville, vice-president; and re-elected Dr. P. B. Parsons, Norfolk, secretary-treasurer.

THE VIRGINIA UROLOGICAL SOCIETY

At its luncheon meeting discussed plans for combining the Virginia and West Virginia Urological Societies and applying to the American Urological Association for section privileges. The mid-winter scientific session will be held at Petersburg in February 1949. Officers elected for the ensuing year are: President, Dr. Herbert C. Jones, Petersburg; vice-president, Dr. Herbert D. Wolff, Alexandria; and secretary-treasurer, Dr. Warren W. Koontz, Lynchburg.

The Seaboard Medical Association of Virginia and North Carolina

Is meeting at Elizabeth City, N. C., December 7, 8 and 9, under the presidency of Dr. Zack D. Owens of that city. The secretary, Dr. Clarence Porter Jones of Newport News announces an excellent program which will be addressed at the opening session by Governor-elect of North Carolina, Honorable W. Kerr Scott. Guest speakers

will be Dr. Maurice Pincoffs of Baltimore, Md., Dr. J. Grafton Love of Rochester, Minn., Dr. A. Seldon Mann, of New Orleans, and Dr. Reid Heffner of New Rochelle, N. Y.

Dr. Gold to Speak in Richmond.

Dr. Harry Gold, Professor of Clinical Pharmacology at Cornell University Medical School, will speak at the Medical College of Virginia on December the 14th. His topic will be "An Optimal Routine for the Treatment of the Failing Heart". Dr. Gold is coming to Richmond under the auspices of the Phi Delta Epsilon medical fraternity and the lecture will be given in Baruch Auditorium at 4:00 p.m.

The medical profession is invited.

Alcoholism Cure Clinic.

Virginia's newest experiment in public health work is the opening of the Bureau of Alcohol Studies and Rehabilitation of the State Department of Health. This is being undertaken to determine if a practical program can be worked out for the successful treatment of alcoholism through the public health system. Dr. Ebbe Hoff, associate professor of neurophysiology at the Medical College of Virginia, is medical director; Mr. Kenneth Lee, formerly with the State Department of Education, is program director; and Miss Roberta Lytle, recently with the Department of Welfare, Vancouver, B.C., is social psychiatrist.

At present only out-patient clinics will be conducted—three sessions a week. After the first of the year, a 12-bed patient clinic at the Medical College of Virginia Hospital will be in operation on a full-time basis.

Dr. M. B. Lamberth, Jr.,

Kilmarnock, was elected president of the Lancaster County Health Committee at its initial meeting held on November 15th.

Dr. Robert Manton Wilson,

Formerly a medical missionary in Korea, has been appointed as health director of Henrico County, effective December 1st. During the War, he returned to this country and was appointed epidemiologist and medical inspector for the Richmond Health Department and later served as director of the department's medical aid bureau. Dr. Wilson returned to Korea at the end of 1945 as director of leprosy work in that country under the auspices of the Army, remaining there for 1946 and 1947.

Southern Medical Association.

At the annual meeting of this Association in Miami, in October, Dr. Oscar B. Hunter, Washington, was installed as president, and the following officers elected: president-elect, Dr. Hamilton W. McKay, Charlotte, N. C.; vice-presidents, Drs. Curtis Rosser, Dallas, and Donald W. Smith, Miami; and Mr. C. P. Loranz, Birmingham, reelected secretary-manager.

Dr. R. W. Fowlkes, Richmond, was named as chairman of the section on dermatology and syphilology.

Cincinnati was selected as the place for the 1949 meeting.

Virginia Division, American Cancer Society.

At the recent annual meeting of this Division, held in Richmond on October 15th, Dr. William T. Sanger, Richmond, was named president, Dr. Guy W. Horsley, also of Richmond, vice-president and secretary; and Dr. George Cooper, University, medical director and delegate to the American Cancer Society.

Dr. E. P. Lehman, University, received the J. Shelton Horsley Memorial Award in recognition of outstanding contributions to the cause of cancer control.

A check for $37,900 from the American Cancer Society was presented to the Medical College of Virginia for research in the treatment of cancer patients in a special ward.

American College of Surgeons.

At the annual meeting of the College held in Los Angeles on October 21st, Dr. Frederick A. Coller, Ann Arbor, Michigan, was elected President. Dr. Frank S. Johns, Richmond, was named to the Board of Governors for a term expiring 1951.

The following Virginia doctors were received into Fellowship at this meeting: Drs. William F. Bryce, Richmond; Mark Exley, Norfolk; Pembroke T. Grove, Winchester; Charles J. Harkrader, Jr., Bristol; William B. Hoover, Norfolk; J. Robert Massie, Jr., Richmond; Millard B. Savage, Norfolk; William P. Sellers, III, Norfolk; John A. Shackelford, Martinsville; Edward V. Siegel, II, Newport News; William N. Thornton, Jr., Charlottesville; and T. Duval Watts, Richmond.

University of Virginia Plans National Alumni Association.

A number of medical alumni of the University of Virginia met in Charlottesville on September 25 and 26 to discuss plans for a national alumni organization of the medical department of the University. One of the plans is to have gatherings of the University medical graduates at the annual meetings of the American Medical Association, the Medical Society of Virginia and at other conventions. The group included alumni from the New England States and as far west as Michigan and in the south as Texas. They plan to meet again in the week of December 11 for the purpose of strengthening their ties with the University's School of Medicine. Dr. Charles S. Venable of San Antonio, Texas, is chairman of the national committee, and Dr. Vincent W. Archer of the University is vice-chairman.

What Does Your TB Association Do?

The tuberculosis association is formed by public spirited citizens to better the health of the community. It is a voluntary agency devoted to public service. It welcomes all persons who want to work for TB control.

It studies local needs and builds its work on these needs. It demonstrates the value of the TB control program to the community.

It pioneers in new procedures and tests them in use. The programs proved to be successful can then be taken over by the official agency—which is backed by the law and supported by taxes.

Official agencies need an educated public, willing to support them by taxes. Convincing the taxpayer, by education and demonstration of the need of a TB control program, is the job of your tuberculosis association.

Christmas Seals furnish the funds for the overall objective of eradicating tuberculosis which includes fact finding, health education, case finding, rehabilitation and research. *Buy Christmas Seals.*

Winchester Memorial Hospital Honors two of its Benefactors.

The Executive Committee and the Medical Staff of the Winchester Memorial Hospital have recently established two annual lectures in connection with the regular monthly staff conferences. One of these lectures honors Doctor Hunter H. McGuire who has been president of the hospital since its organization in 1901, and the second lecture is in honor of Mr. Frank N. Hack of Winchester whose recent and past philanthropies have greatly aided in the construction and maintenance of newer portions of the hospital.

The first annual Frank N. Hack lecture was held in Winchester on November 17th at which time Doctor Alfred Blalock, Professor of Surgery, Johns Hopkins University, spoke on "The Surgical Treatment of Congenital Cardiovascular Defects".

The first annual Hunter H. McGuire lecture will be held in Winchester on April 20th at which time Doctor Irving S. Wright, Associate Professor of Medicine, Cornell University Medical School, New York, will have as his subject "A Critical Analysis of the Use and Abuse of Anticoagulant Therapy in the Treatment of Thrombo-embolic Diseases".

The regular monthly Staff conference of the Winchester Memorial Hospital on October 27th consisted of a symposium on vascular hypertension with the following sub-divisions and speakers:

Etiology, Dr. John C. Hortenstine, Winchester

Retinal Changes, Dr. William P. McGuire, Winchester

Medical Treatment, Dr. E. Willis Lacy, Jr., Winchester

Surgical Treatment, Dr. Monford D. Custer, Winchester

Virginia League of Planned Parenthood.

At the meeting of the League in Richmond, October 15, Dr. H. Hudnall Ware of Richmond was re-elected president. The medical advisory committee consists of Dr. M. Pierce Rucker, chairman, Dr. Dean B. Cole, Dr. L. L. Shamburger and Dr. Ware, all of Richmond; Dr. C. J. Andrews and Dr. Brock Jones of Norfolk; Dr. J. M. Nokes and Dr. Wm. Thornton of Charlottesville; Dr. A. M. Groseclose of Roanoke; Dr. E. S. Groseclose of Lynchburg; Dr. Walter McMann of Danville; and Dr. Waverly R. Payne of Newport News.

Virginia Doctors Wintering in Florida.

As has been his custom for some years, Dr. D. Hunter Marrow of Boydton is now at Daytona Beach where he and his daughter expect to spend the winter months.

After spending the summer in Wytheville, Dr. and Mrs. T. H. Massey have gone to New Smyrna

where Dr. Massey reports that he and his wife have already had some good fishing.

Dr. Stuart J. Eisenberg,

Richmond, announces the opening of his office for the practice of roentgenology at 1001 West Franklin Street, this city.

Medical College of Virginia News.

The Medical College of Virginia is anxious to reactivate its organization for the externs of the hospital. It would help the hospital considerably if all those who interned in it prior to 1938 were to write to the Director giving him their present address.

Dr. W. T. Sanger, President of the College has been named to serve on the National Advisory Committee for the Social Work Education Study sponsored by the National Council on Social Work Education which combines in its membership all national organizations in the field of social work. Dr. Ernest V. Hollis, Director of the Study, who announced the appointment said that Dr. Sanger would be among 15 distinguished educators who would serve as a sounding board for ideas and proposals of the committee appointed to make the study. He will be the only representative on the committee from Virginia.

Drs. Jones and Allen.

Dr. Philip Jones and Dr. Randolph Allen, both of Richmond, announce the removal of their office to 315 Dundee Avenue, this city.

Married.

Dr. William Rhea Bond and Miss Veronica Valerie Scearce, both of Richmond, November 13.

Program by Richmond Doctors.

The Trumbull County (Ohio) Medical Society had Postgraduate Day on November 17 in Niles, Ohio. The guest speakers for morning, afternoon and evening sessions were Dr. W. Taliaferro Thompson, Dr. Elam C. Toone and Dr. Guy W. Horsley, all of Richmond.

Dr. Lehman Honored.

Dr. Edwin P. Lehman of the University of Virginia was honored on November 19 and 20 in recognition of his twenty years' service there as professor of surgery and gynecology. He was guest of honor at a banquet on the 19th, following a lecture by Dr. Evarts A. Graham, professor of Surgery at Washington University, St. Louis. On the morning of the 20th, Dr. Lehman held a clinic for former students and residents, who that evening sponsored a faculty and visitors' get-together in Dr. Lehman's honor.

Assistant to Dr. Breyfogle.

Dr. Geoffrey Thomas Mann of Regina, Saskatchewan, has been named by State Health Commissioner, Dr. Roper, as assistant chief medical examiner, thus completing the three-man staff of the Chief Medical Examiner's office, of which Dr. H. S. Breyfogle is chief, and Dr. Sidney Kaye toxicologist. Dr. Mann is also a lawyer and was practicing this latter profession in Regina prior to accepting the appointment here.

Cancer Conference Papers Published.

Papers presented at the pioneering Rocky Mountain Cancer Conference's second annual session in Denver last July have been published together in the November issue of the *Rocky Mountain Medical Journal.* The issue is the first in the 45-year history of the journal to be devoted to a single medical topic. It also is the largest—168 pages against a normal 96 pages.

Contributors to the special issue include 17 of the country's top-ranking cancer authorities. Among them: Drs. Richard H. Sweet, Boston; Alton Ochsner, New Orleans; Morris K. Barrett, Bethesda, Md.; John W. Budd, Los Angeles; Vincent J. O'Conor, Chicago; Alfred W. Adson, Rochester, Minn.; C. Howard Hatcher, Chicago; John H. Lawrence, Berkeley, Calif.; and Fred W. Rankin, Lexington, Ky.

The Rocky Mountain Cancer Conference represents a pioneering venture in the field of practical post-graduate education with primary emphasis on assistance to the general practitioner. Its sponsors have aimed the first two annual sessions at an immediate objective of stimulating the interest of the general practitioner in the varied problems of cancer and of bringing to him up-to-the-minute information on new techniques and methods now available for diagnosis and treatment.

The special cancer issue of the *Rocky Mountain Medical Journal* is being distributed to the 3500 members of the state medical societies of Colorado, Wyoming, New Mexico, Utah and Montana, which sponsor the journal, and several thousand addi-

tional copies were run off to meet requests from other states.

Drs. Hoover and Wiley.

Drs. W. B. Hoover and W. B. Wiley of Norfolk announce removal of their offices to 1204 Colonial Avenue, that city, for the practice of surgery.

Dr. C. F. Johnston, Jr.,

Recently of Grundy, is now a member of the surgical staff of the Johnston Memorial Hospital, Abingdon.

Dr. Thomas Beath

Has returned to Richmond where he has opened offices at 1006 West Franklin Street for the practice of orthopedic surgery. He had practiced in Richmond for five years beginning in 1937 when he was called for service in the Canadian Army during World War II. Dr. Beath has recently been in Columbia, South Carolina, doing special work in orthopedic surgery. While away from Richmond, he was awarded Fellowship in the Royal College of Surgeons in Canada; he received the degree of Master of Surgery, and was made a diplomate of the American Board of Orthopedic Surgery. Dr. Beath has now completed his citizenship in the United States.

News from Department of Medicine, University of Virginia.

Dr. E. P. Lehman, Head of the Department of Surgery, attended the Pan Pacific Surgical Congress in Honolulu, T. H., August 31-September 11, and presented the following papers: "Intestinal Obstruction" by Drs. W. E. Becker, C. E. Davis, and E. P. Lehman; "Cancer Research" and "Control of Cancer". During the business session of the Congress, Dr. Lehman was elected Chairman of the Council for the Mainland.

Dr. C. L. Gemmill, Department of Pharmacology, attended the Ninth International Congress on Industrial Medicine in London, England from September 12-17th where he presented a paper on "Altitude and Exercise".

On September 23, Dr. Fletcher Woodward spoke before the General Assembly of the Michigan State Medical Society in Detroit. His subject was "Medical Criticism of Modern Automotive Engineering".

At the meeting of the Norburn Hospital Medical Conference held in Asheville, N. C. on October 1, Dr. E. P. Lehman spoke on the subject "General Problems of Cancer".

Dr. Eugene R. Kellersberger of the American Mission to Lepers, Inc., spoke to the Faculty and student body of the Medical School on October 8th on *Leprosy*. Dr. Kellersberger was one of the five official representatives of the United States Government to the World Leprosy Conference in Havana, Cuba.

The Postgraduate program for House Officers on October 11, presented as guest speaker Dr. Theodore Woodward of the School of Medicine of the University of Maryland. Dr. Woodward's subject was: "The Clinical Uses of Chloromycetin".

On October 18, the guest speaker was Dr. June C. Shafer of Arlington. Dr. Shafer spoke to the faculty and student body on the subject, "The Clinical Application of Radiation Principles".

In this series, Dr. Edward Tuohy, Professor of Anesthesia of the School of Medicine of Georgetown University on October 25 lectured to the student body and faculty on the subject, "What Anesthesiology Embraces".

On November 10, the guest speaker in the series was Dr. Hans Selye of the University of Montreal. Dr. Selye spoke on the subject: "General Adaptation Syndrome; Diseases of Adaptation".

During the week of October 11-16th Dr. Fletcher Woodward presented a lecture before the American Academy of Ophthalmology and Otolaryngology in Chicago. Dr. Woodward spoke on "The Treatment of Bilateral Recurrent Nerve Laryngeal Paralyses".

As a member of the visiting faculty of an "Orientation Course in Clinical Allergy", given by the Northwestern University Medical School, under the sponsorship of the American Academy of Allergy on October 25, Dr. Oscar Swineford, Jr., lectured on the subjects "Bacterial Allergy" and "Physical Factors in Allergy".

Dr. Oscar Swineford, Jr., has received information to the effect that the Ciba Pharmaceutical Products, Inc. has renewed its grant for $2500 for continued experiments in bacterial allergy in 1949.

Dr. H. B. Mulholland spoke to the Goochland Home Demonstration Club, Goochland, Virginia on the subject "Health in Virginia" at a meeting on October 26. On October 31, he spoke at a meeting of the Chesapeake & Ohio Railway Surgeons in White Sulphur Springs, West Virginia. Dr. Mul-

holland's subject then was: "The Diagnosis and Treatment of Liver Disease with Especial Reference to Cirrhosis".

Under the auspices of the University of Virginia School of Medicine Chapter of A.I.M.S., an Open Forum on "Rural Medicine and its Challenge" was held on Thursday, November 4th in the Amphitheatre. This Forum was conducted by Dr. L. J. Evans of the Commonwealth Fund, Dr. W. E. Garnett, Rural Sociologist, Virginia Polytechnic Institute, and Dr. H. B. Mulholland and Dr. G. M. Lawson of the University of Virginia Department of Medicine.

On November 9, 1948, at the Annual Meeting of the American Climatological & Clinical Society, held in Hot Springs, Virginia Dr. J. Edwin Wood, Jr., presented a paper on the subject: "Urinary Sodium Excretion Following the Use of Certain Diuretic Substances" by J. Edwin Wood, Jr., M.D., and A. J. Crutchfield, M.D.

On November 9, Dr. Edwin J. Palmer of Roanoke lectured to the faculty and student body on the subject "The Private Practice of Psychiatry".

Dr. W. H. Batte,

Until recently Norfolk and Western Railway Company medical examiner at Crewe, has been transferred to Norfolk as medical examiner there.

Dr. Jim Foust

Of Norton recently went to the Mayo Clinic, Rochester, Minn., for a three-year fellowship in obstetrics and gynecology.

1949 Award Contest.

The National Gastroenterological Association announces its annual cash prize award contest for 1949. One hundred dollars and a Certificate of Merit will be given for the best unpublished contribution on Gastroenterology or allied subjects. Contestants residing in the United States must be members of the American Medical Association. The winning contribution will be selected by a board of impartial judges and the award is to be made at the Annual Convention Banquet of the National Gastroenterological Association in October of 1949.

All entries for the 1949 prize should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies accompanied by an entry letter, and must be received not later than 1 April 1949. Entries should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

For Rent

Desirable office, centrally located in Richmond. Reasonable. If interested, dial 5-3267, or address "Office" care this journal, 1200 East Clay Street, Richmond. (*Adv.*)

OBITUARIES

Dr. Stuart McGuire,

Nationally known surgeon, teacher and author died at his home in Richmond, October 27, after a long illness. He was born in Staunton, September 16, 1867 and, after completing his academic education entered the Medical School of the University of Virginia, from which he graduated in 1891. After postgraduate work, he located in Richmond where he was associated with his father, the late Dr. Hunter Holmes McGuire, in the operation of St. Luke's Hospital. He was elected president of the former University College of Medicine in June 1905 and was largely instrumental in the movement for the merging of that school with the Medical College of Virginia. He was later president of the merged schools and, at the time of his death, was still a member of its board of visitors.

During World War I, Dr. McGuire helped organize and was chief surgeon of Army Base Hospital No. 45 which was located in France. He was a member and former president of the Richmond Academy of Medicine, the Medical Society of Virginia, the Tri-State Medical Association of the Carolinas and Virginia, the Southern Medical Association, and the Southern Surgical and Gynecological Association. He was also active in the social and civic life of Richmond. Surviving him are his wife and three sisters.

It may truly be said of him that he was "the noble son of a noble sire".

Dr. Charles Russell Robins,

Widely known gynecologist and one of the founders of Stuart Circle Hospital, Richmond, died Oc-

tober 16th following a heart attack. He was born in 1868 and graduated from the Medical College of Virginia in 1894. Dr. Robins served as the first president of Stuart Circle Hospital from 1914 to 1945, retiring from active practice early in 1946. He also was the first professor of gynecology at the Medical College of Virginia and since 1938 had been professor emeritus. Dr. Robins was a past governor of both the Sons of the Revolution in the State of Virginia and the Society of Colonial Wars and was a former president of the Richmond Rotary Club. He held membership in many professional organizations, and served as president of the Richmond Academy of Medicine. Dr. Robins had been a member of the Medical Society of Virginia for sixty-two years and would have been awarded his certificate for more than fifty years of practice at the meeting of the Society two days after his death. His wife, three daughters and three sons survive him. Two sons are Drs. C. R. Robins, Jr., and A. Spotswood Robins, both of Richmond.

Dr. Harry Howard Pope,

Prominent physician of Ivanhoe, died suddenly from a heart attack on July 18, at the age of forty. He was in his office treating a patient when he was stricken. Dr. Pope graduated from the University of Tennessee Medical College in 1933 and served his internship at the Memphis General Hospital. In 1935 he returned to his native town of Ivanhoe to become company physician and surgeon for the National Carbide Corporation, a position which he held until his death. He was active in the civic and welfare organizations not only of his own community but of the entire county. He was a Mason and a Shriner, a member of the Southwest Virginia Medical Society and the Medical Society of Virginia. His wife and two children survive him.

Dr. Sylvester Amos Draper,

Class of 1900, Medical College of Virginia, died at his home in Orlando, Florida, the latter part of September, death resulting from a heart attack. He was seventy-four years of age and formerly practiced in Roanoke. He retired several years ago since which time he had lived in Florida. Interment was in Huntington, W. Va.

Dr. Joseph Bear.

The medical profession in general and the Richmond Academy of Medicine in particular have suffered a profound loss in the death on August 28, 1948, of Joseph Bear. He was quiet and unassuming but always gave himself unstintedly to the service of his patients and was held in the highest esteem by his colleagues.

Dr. Bear was born in Richmond, Virginia, June, 1889. His early education was acquired in the public schools of this city. He graduated as a Doctor of Medicine from the Medical College of Virginia on May 28, 1912. After graduation he served one year as House Physician and Surgeon at the Memorial Hospital. He then engaged in general practice until the beginning of World War I when he entered the service of his country as a First Lieutenant in the Medical Corps.

To fit himself for the practice of Obstetrics and Gynecology, he took post-graduate work at the following clinics: Johns Hopkins University, the Mayo Clinic, the University of Pennsylvania, the Chicago and the New York Lying-In Hospitals. After returning to practice he served continuously on the faculty of the Medical College of Virginia, attaining the position of Assistant Professor of Obstetrics.

He was an active member of the Richmond Academy of Medicine and a regular attendant at its meetings. He also held membership in the Medical Society of Virginia, the Southern Medical Association, the American Medical Association, the Virginia Obstetrical and Gynecological Society, the South Atlantic Association of Obstetricians and Gynecologists, and was president of the Richmond Obstetrical and Gynecological Society at the time of his death. He was a faithful member of the congregation of Beth Ahabah Synagogue and was at one time president of its Men's Club.

He will be missed by the patients whom he loved so unsparingly, by his wide circle of friends who meant so much to him and to whom he was always so loyal. His colleagues will cherish the memory of a true friend, a cultured gentleman and a real physician.

It is requested that a copy of this humble tribute be spread upon the minutes of the Richmond Academy of Medicine, that a copy be sent to the VIRGINIA MEDICAL MONTHLY and that a copy be sent to his family.

J. E. WARINNER
A. F. BAGBY
T. DEWEY DAVIS, *Chairman*

A similar tribute to Dr. Bear was presented by the Virginia Obstetrical and Gynecological Society.

VIRGINIA MEDICAL MONTHLY

INDEX TO VOLUME LXXV

January 1948—December 1948, inclusive

January	— pages 1- 54	May	— pages 213-262	September	— pages 435-490
February	— pages 54-106	June	— pages 263-324	October	— pages 491-546
March	— pages 107-158	July	— pages 325-378	November	— pages 547-594
April	— pages 159-212	August	— pages 379-434	December	— pages 595-649

AUTHOR INDEX

Albertson, H. A., 173
Alexander, Edward L., 161
Archer, V. W., 148
Barker, W. Halsey, 4, 141
Beck, Regena, 278
Beckwith, Julian R., 295, 511
Bengtson, A. W., 231
Bickers, William, 568
Bigger, I. A., 229
Black, James B., 505
Blackford, Staige D., 265
Blakely, Ruth, 236
Blanton, Wyndham B., 607
Bloom, Nathan, 248, 403
Bourne, Wesley, 1
Boyer, Randal A., 547
Bradley, Chester D., 328
Bradley, Miriam D., 328
Broome, L. R., 129
Browne, W. A., 99
Brownley, Harvey C., 191
Buxton, Russell, 493
Byrne, K. B., 579
Cantor, Hyman, 197
Carr, George H., Sr., 420
Chitwood, W. R., 511
Coates, Thomas F., 29
Cover, Elizabeth M., 359
Copley, E. L., 346
Coleman, Claude C., 110, 386
Crutchfield, A. J., 381
Devine, John W., 559
Devine, John W., Jr., 559
DeVries, Peter J., 173
Dowling, George B., 498
Duval, Robert C., Jr., 213
Edmunds, Meade, 278
Eisenberg, Stuart J., 27
Eller, C. Howe, 90
Englar, Thomas S., 236
Ferguson, Homer E., 447
Fowlkes, Richard W., 418
Frohbose, William J., 292
Garst, Lula W., 231
Gayle, R. Finley, Jr., 29, 288
Gilpin, Zenobia G., 80
Gammage, F. V., 301
Glendy, R. Earle, 19, 334
Gossels, Conrad L., 408
Graham, W. Randolph, 505
Graves, K. D., 107, 411
Grubb, A. B., 422, 579
Guerry, DuPont, III, 505
Habel, J. M., Jr., 517
Hall, James King, 539
Hodges, Fred M., 547
Holmes, E. M., Jr., 200
Hoover, Roy M., 233
Horsley, Guy W., 17, 281
Hoskins, Horace D., 182
Hundley, John T. T., 167
Hutcheson, J. Morrison, 159
Irvin, Charles M., 14
Johnson, Henry S., 379
Johnson, M. A., 58
Jones, Brock D., Jr., 444
Jordan, William R., 325
Kendig, E. L., 395
Kirklin, B. R., 597
Kruger, Alfred L., 351
Lee, Herbert C., 435
LeHew, Allen E., 511
Longmire, William P., Jr., 601
Love, J. W., 341
Lull, George F., 205
Lynch, John P., 288
McCausland, Alexander, 265
McGee, W. Ambrose, 491
McGovern, Francis H., 129
McGuire, William P., 338
McGurl, Thomas J., Jr., 225
Macht, Stanley H., 122
Malin, Wendell E., 416
Massie, Margaret, 568
Meredith, H. Clarkson, Jr., 84, 295
Meredith, John M., 110, 386
Miller, James Raglan, 595
Miller, Roshier W., 636
Moyer, Ralph E., 389
Mulholland, H. B., 55
Nalls, Walter L., 389
Page, M. Jane, 397
Page, Sidney G., Jr., 75, 397
Payne, Robert Lee, Jr., 503
Pepple, Allen, 418
Perchonock, Meyer, 75
Pinckney, M. Morris, 131
Porter, Reno R., 357, 403
Read, William A., 493
Richman, Samuel, 124
Root, Howard F., 580
Roper, L. J., 108, 217
Sahyoun, Philip, 568
Scherer, J. Hamilton, 288
Schieve, James F., 521
Schnurman, Albert G., 89
Scott, William W., 550
Shield, James Asa, 564
Smith, Dudley C., 219
Smith, James H., 171
Smith, Philip S., 179
Spence, Harry Y., 413
Speck, George, 185
Stephenson, Hack U., Jr., 241
Strange, Theodore B., 526
Sutton, L. E., 413
Tassman, I. S., 70
Thomas, J. Warrick, 134, 505
Thompson, Lloyd L., Jr., 137
Thompson, Robert C., 219
Toone, Elam C., 87
Troland, Charles E., 110, 386
Tureman, G. R., Jr., 32
Viets, Henry R., 263
Vinson, Porter P., 363
Walker, Harry, 78
Weitzel, John S., 575
Wilkins, Walter, 236
Williams, Carrington, 269
Williams, Carrington, Jr., 269
Williams, John F., 452
Williams, John P., 75, 225
Wilson, David C., 553
Winn, W. C., 393
Wood, J. Edwin, Jr., 381
Wooding, N. H., 361
Woodward, Fletcher D., 449

SUBJECT INDEX

Abscess, Roentgen manifestations of intra-abdominal, 124
Adenocarcinoma of the ovary, A clinical review of papillary, 185
Alcoholism cure clinic, 644
Allergic patient, Some miscellaneous observations on management of the, 161; Advantage of indirect skin tests for — children, 491; Varied — reactions to penicillin, 505
American Medical Association, Fellowship and membership in the, 141
Ammonium chloride and other acid producing substances in the treatment of congestive heart failure, The role of, 381
Anemia problem in everyday practice, The, 191; Hemolytic — in the newborn, 395
Anesthesia, Post-graduate education in, 1
Anesthesiology, 100
Anuria and blood disturbances resulting from severe burns, 173
Appendicitis, Traumatic, 122
Arthritis, rheumatoid, Treatment of, 131; Gout simulating — —, 493
Asthma, Treatment of bronchial, 411
Bacterial pneumonias, Treatment of, 78

Bibliotheca Obstetrica

Cleopatra, 44
Paulus Aegineta, 92
John Charles W. Lever, 139
Dr. Peter Chamberlen, 204
Marmaduke Burr Wright, 264
Christopher Volter, 365
Samuel Thomas von Soemmerring, 380
Reguer de Graaf, 516
Julius Caesar Arantius, 596

Bleeding, Management of gastrointestinal, 17
Blood in the urine, 550; Red Cross — program, 498; — disturbances and anuria resulting from severe burns, 173; American Red Cross national — program, 263

Book Announcements

Andrus, et al—Advances in Military Medicine, 425
Bergler—The Battle of the Conscience, 534
Bluemel—War, Politics and Insanity, 424
Burstein - Bloom — Illustrative Electrocardiography, 204
Cook—The Primary Cause of Gastric and Duodenal Ulcer, 142
Deming—The Practical Nurse, 45
Drake—Pioneer Life in Kentucky, 424
Fishbein—Medical Writing, 585
Fishbein-Burgess—Successful Marriage, 611
Goar—Handbook of Ophthalmology, 424
Hamilton—Textbook of Human Physiology, 459
Hirsch—Sex Power in Marriage, 45
History of the Medical Society of the County of Westchester, 313
Hospital Care in the United States, 46
How Laymen Cut Medical Costs, 424
Ilgenfritz-Maes—Preoperative and postoperative care of surgical patients, 612
Johnson—The Years After Fifty, 98
Kahn-Kirsten-Marsh—Practical Child Guidance, 142
Lederer-Hollender—Textbook of the Ear, Nose and Throat, 45
Levine et al—Advances in Pediatrics, 534
Licht - Burlingome — Occupational Therapy Source Book, 612
McDonald-Chusid-Lange — Correlative Neuroanatomy, 584
Mettler—Neuroanatomy, 459
Muncie—Psychobiology and Psychiatry, 584
Novak—Textbook of Gynecology, 425
Pottenger—Tuberculosis, 253
Rodale—The Healthy Hunzas, 424
Rosen-Caspari-Rosen—400 Years of a Doctor's Life, 45
Schultz-Hill—Your Baby, 585
Shands—Handbook of Orthopedic Surgery, 584
Shirley—Psychiatry for the Pediatrician, 313
Shryock—American Medical Research Past and Present, 534
Smith-Goult—Essentials of Pathology, 533
Strecker et al—Practical Clinical Psychiatry, 45
Stitt-Clough-Branham—Practical Bacteriology, Hematology and Parasitology, 459
Taussig—Congenital Malformations of the Heart, 367
Vaughan-Black—Practice of Allergy, 534
Zahorsky—Synopsis of Pediatrics, 313
Zoethout—Introduction to Human Physiology, 253

Bronchial asthma, Treatment of, 411
Broncho-esophagology, Indications for, 182
Brucellosis, 32, 533; Streptomycin in acute —, 75
Burn scars, Cancer following, 197
Burns, Blood disturbances and anuria resulting from, 173
Bursitis, Roentgen therapy of, 547
Cancer following burn scars, 197; Vaginal cervical smear in the diagnosis of uterine —, 568
Carcinoma of the ovary, Clinical review of papillary adeno-, 185
Cardiovascular disease, Hopeful aspects of, 19; Penicillin in — syphilis, 357
Cirrhosis of the liver: some comments upon the clinical diagnosis and medical management, 137
Cold prevention, Influenza virus vaccine, types A and B in, 607

Colleges

Medical College of Virginia, 371
University of Virginia, 373

Colles' fractures, 526
Colon, Diverticulitis of the, 269
Coma, Management of diabetic, 171
Communicable diseases, Use of general hospitals for, 582
Conjunctiva, Rhinosporidiosis of the, 278
Contagious diseases, Modification of rules in, 93
Convulsive drugs, The use of anti-, 29
Coronary thrombosis, The history and important factor in diagnosis of, 346
Coroner system, Virginia's new, 14
Coroners of Virginia, 94
Country doctor, 361

Deaths

Joseph Long Alexander, 54
Irving S. Barksdale, 158
David Pendleton Bowman, 262
Joseph Bear, 546, 649
James John Bishop, 490
Edward Gibson Brumback, 54
Oliver Curry Brunk, 546
Joseph Caplan, 158
Benjamin Lewis Carter, 54
William T. Chitwood, 594
Taliaferro Clark, 434
Alfred B. Claytor, 158
Leland E. Cofer, 158
Harvie DeJarnette Coghill, 157, 323
Frank Hubert Crawford, 106
Littleton Davis, 212
Chertsey Hopkins DeJarnette, 54
Benjamin Adoneram Doggett, 212, 262
Sylvester Amos Draper, 649
Stanley Burt Ellis, 106
Edward L. W. Ferry, 157

Zenobia G. Gilpin, 378
Marshall Peterson Gordon, 323, 378
Edward A. Gorman, 490
James K. Hall, 439-546
Loring Hammer, 54
Charles P. Harshbarger, 490
James Sinkler Irvine, 377
William Arthur Jeffress, 490
Walter Dennis Kendig, 211
J. Elwood Knight, 54, 101
Robert Richard Lee, 377, 434
Josiah K. Lilly, Sr., 158
Eugene Hartwell Luck, 378
Stuart McGuire, 636, 648
Josephine McLeod, 594
Thomas Hamblen Massey, 594
John Bowdoin Mears, 54
Perry Watson Miles, 157, 323
Joseph Henry Mitchell, 158
Robert Edgar Mitchell, 158
Robert Sterling Montgomery, 158
Ernest Mosby, 212
Francis Power Parker, 54, 490
Rea Parker, 490
William Lowndes Peple, 150, 157
Harry Howard Pope, 649
Rufus L. Raiford, 434
Julian L. Rawls, 100, 106, 212
Alfred Chambers Ray, Sr., 262
Israel Kay Redd, 546
Charles Russell Robins, 649
Julian McGruder Robinson, 434, 546
Philip Edward Rossiter, 323
Joseph A. Rucker, 434
Thomas Erle Rucker, 593
Charles Wallace Sale, 434
Cornelius James Seay, 323
Francis Henney Smith, 428
Samuel Lewis Steer, 594
Holman Taylor, 54
Joseph Atkinson Thomas, 106
George Tully Vaughan, 323
Fernando A. Ward, 594
Benjamin Beckham Warriner, 434
Elizabeth French Whitehead, 54
Thomas V. Williamson, 212
Arthur Lee Wilson, 378
John E. Womack, 106
Robert Herbert Wright, 106
Silas Terry Yeatts, 323

Diabetes and pregnancy, 325; — insipidus, 422; Responsibility of practicing physician for, 580
Diabetic coma, Management of, 171
Digestive symptoms associated with disorders located outside of the — tract, 4, 141
Digitalis in acute glomerulonephritis, 295
Diverticulitis of the colon, 269
Doctor, Country, 361
Ear, A case of supersensitive, due to anomaly of the drum, 89
Early rising and — ambulation following surgical operations, 435

Editorials

A.M.A., 97th Annual Session, 426
Anesthesiology, 100
Annual meeting, 485
Balneology, 537
Cancer problem, A new approach to the pelvic, 589
Community Fund agencies, 536
Conference of State Medical Association of Secretaries and Editors, 48
Cornelian corner, 428
Diabetes week, 637
Federalized medicine, The cost of, 205
Fifty Year Club, 314
Infant mortality, New lows in, 588
Interneships, 368
Kidney, Internal circulation of the, 483
Knight, Dr. J. E., 101
Library Association, Medical, 369
Maternal mortality, New lows in, 588
Medicine of the Year, 639
Meeting, 101st annual, 638
Mortality rates for 1946, 206
National emergency medical service, 314
Pelvic cancer problem, A new approach to the, 589
Peple, William Lowndes, 150
President, Our new: Dr. M. P. Rucker, 586
Rawls, Dr. Julian L., 100
Rehabilitation, Civilian vocational, 587
Rural health problem in Illinois, 207
Seventy-five years old, 639
Sexual behavior of the human male, 256
Smith, Francis Henney, 428
Topectomy, 256
Veratrum viride and changing medical thought, 484
Virginia environment, The, 315
Westminster Abbey and its monuments, 47
Wholesale and retail medicine, 149
World medical association, 49

Electrocardiography, Practical application of unipolar leads in clinical, 403
Emergency medical service, National, 306
Epilepsy, Use of drugs in idiopathic, 29
Epithelioma, Basal cell: Some valuable pointers gained in successful treatment of 300 cases by x-ray radiation, 420
Esophageal lesions, The management of, 601
Esophagology, Indications for broncho, 182
Esophagus of infant, Foreign body in, 363
Estrogens in the menopause, Indiscriminate use of, 517
Eye changes in the metabolic diseases, 70; — emergencies, 338
Facial pain treated by surgery, 386
Fever, Q, case report, 225; Typhoid — yesterday and today, 251
Fifty year awards, 430

Floral Eponyms

Gentiana, 1
Sequoia, 74
Alberta, 130
Magnolia Hallena, 160
Lophophora Lewinii, 240
Matthiola, 350
Meratia, 388
Brumfelsia, 574
Bouvardia, 635

Foreign body (open safety pin) in esophagus of infant, 363; — — in the gastrointestinal tract, 503
Fractured hips, Review of, 58
Fractures, Colles', 526
Gastric resection for peptic ulcer: clinical study of 72 cases, 241
Gastrointestinal tract, Foreign bodies in the, 503; — symptoms may arise from variety of disorders outside digestive tract, 4; Managament of — bleeding, 17
Glomerulonephritis, Digitalis in, 295
Gout simulating rheumatoid arthritis, 493
Health and medical care, The Virginia Council on, 55; — problems of Negroes in Richmond, 80; Coordination of urban and rural public —, 90; Contributions of 1948 General Assembly in the field of —, 217
Heart failure, The role of ammonium chloride and other acid producing substances in the treatment of congestive, 381; Hopeful aspects of — disease, 19; Protruded cervical intervertebral disk simulating — disease, 408
Hematuria, The importance of, 550
Hemoglobin studies on Albemarle County school children, 236
Hemolytic anemia in the newborn, 395
Hepatitis occurring at Station Hospital, Camp Lee, Report of 62 cases of infections, 521

Hips, Review of fractured, 58
History of medicine sixty years ago on Virginia peninsula, 328
Hospital survey and construction program under the Hill-Burton Act, The Virginia, 108; Medical care and — administration, 179
Hydantoin, Another fatality following the use of tridione and an, 288
Hypertension, The selection of cases and the surgical treatment of, 110
Incomes, Physicians', 552
Infant, The premature: baby or foetus, 107
Influenza virus vaccine, types A and B: experience with it in cold prevention, 607
Intervertebral disk simulating heart disease, Protruded cervical, 408
Intestinal parasites throughout Virginia, Report on infestation of, 231
Invalidism, The psychosomatic effects of chronic, 553
Kendig, Edwin L., 395
Laryngeal tuberculosis with streptomycin, The treatment of, 129
Larynx, Significance of paralysis of the: its surgical correction in bilateral cases, 449
Legislation in 1948, Virginia General Assembly medical, 213
License tax on physicians, State, 216
Liver, Cirrhosis of the: comments upon clinical diagnosis and medical management, 137
Malaria in Virginia, 304
McGuire, Dr. Stuart, 636
Medical Society of Virginia: Council, 143, 305; Delegates to American Medical Association, 254; Program, 460; Committee reports, 465; Presidents, 535; Transactions, annual meeting, 616
Medical care, Virginia Assembly looks at solicitation of funds for, 379; Plea for a shorter road to — education, 579; The practice of — economy, 55; — public relations, 167; — — and hospital administration, 179; — legislation in 1948 Virginia General Assembly, 213
Medicine in Virginia peninsula sixty years ago, 328; Physical — in general practice, 416; — of the year, 610
Meningitis, Sulfadiazine in the treatment of meningococcic, 397
Menopausal syndrome, Use of vitamin E in, 447
Menopause, Indiscriminate use of estrogens in the, 517
Metabolic diseases, Ocular changes in the, 70
Migraine, Treatment of, 134
Myasthenia gravis: two case reports, 84
Myocardial infarction: review of 100 cases, 511
Nail changes following application of a nail preparation, 418
National emergency medical service, 306
Negroes in Richmond, Health problems of, 80
Nephritis, Digitalis in acute, 295
Nephrotic syndrome, Nutritional management of, 413
Neurosyphilis with negative blood and spinal fluid Wassermanns, The diagnosis and treatment of, 564
Newborn, Hemolytic anemia in the, 395
Night service must be met, Public demand for, 205
Nurses, ANA assails plan to use practical — in place of professional registered —, 42; Practical —, 610
Nursing problem, The, 159
Nutritional management of the nephrotic syndrome, 413
Obstetrics, Recent trends in, 444
Ocular changes in the metabolic diseases, 70; — emergencies, 338
Organic and psychomatic disease, Co-existence of, 359
Ovary, Papillary adenocardinoma of, 185
Paralysis of the larynx, The significance of: its surgical correction in bilateral cases, 449
Parasites throughout Virginia, Report on infestation of intestinal, 231
Patriotic but not practical, 579
Penicillin in cardiovascular syphilis, 357; Varied allergic reactions to —, 505
Peninsula sixty years ago, Medical practice on the Virginia, 328
Peptic ulcer, Gastric resection for, 241; Treatment of — —, 281
Perforation, A case of healing of a chronic, 89
Peripheral vascular disease, Management of, 248
Phlebitis and its complications, Treatment of, 229
Physical medicine in general practice, 416
Physicians, A widening horizon for, 595
Pneumonias, Treatment of bacterial, 78
Pneumothorax, Primary spontaneous, 351
Poliomyelitis in 1948, 423, 457; Blind spots in the — histories, 613
Pregnancy and diabetes, 325
Psychosomatic medicine, 452; Co-existence of — and organic disease, 359; The — effects of chronic invalidism, 553
Public relations, Medical, 167
Q fever; case report, 225
Rabies, 99; — problem in Virginia, 364
Red Cross blood program, 498
Registration of Virginia physicians, 214, 318
Rehabilitation: an effective partnership, 39; Vocational —, a resource for physicians, 233
Rh factor, The clinical significance of the, 393
Rhabdomyosarcoma: case report with response to roentgen therapy, 27
Rheumatic diseases in southwestern Virginia, 334
Rheumatoid arthritis, Treatment of, 131; Gout simulating — —, 493
Rhinosporidiosis of the conjunctiva, 278
Rocky Mountain spotted fever, Prevalence and prevention of, 203
Roentgen therapy of bursitis, 547; — manifestations of intra-abdominal abscess, 124
Rubeola and rubella: differential diagnosis, 140
School children, Hemoglobin studies on Albemarle County, 236

Scientific exhibits, 148
Serologic test in syphilis, The false positive, 341; An evaluation of the annual — — performance studies conducted by the Virginia State Health Department from 1940 through 1946, 200; — — for syphilis and its clinical application, 292
Sinusitis, 301
Skin tests for young allergic children, Advantage of indirect, 491

Societies
Accomack Medical Society, 317
Albemarle Medical Society, 102
Alexandria Medical Society, 258
Alleghany-Bath Medical Society, 485
American College of Chest Physicians, 103
American College Surgeons, 645
American Gynecological Society, 375
American Medical Association, 430
Arlington Medical Society, 50
Association of American Physicians, 322
Augusta Medical Association, 542, 640
Bedford Medical Society, 370
Danville-Pittsylvania Academy of Medicine, 152
Dickenson-Buchanan Medical Society, 429
Fairfax Medical Society, 640
Fauquier Medical Society, 429
Fourth District Medical Society, 102
Fredericksburg Medical Society, 50
Halifax Medical Society, 590
Lynchburg Academy of Medicine, 50, 102
Medical College of Virginia Alumni Association, 374
Medical Society of Virginia: Council, 143, 305; Delegates to American Medical Association, 254; Program, 460; Reports of committees, 465; Presidents, 535; Proceedings, 616
Mental Hygiene Society, 155
Mid-Tidewater Medical Society, 640
Nansemond Medical Society, 370
Neuropsychiatric Society, 591
Norfolk Medical Society, 370
Northern Neck Medical Society, 641
Northern Virginia Medical Society, 152
Orange Medical Society, 370
Pan American Association of Ophthalmology, 321
Patrick Henry Medical Society, 102, 641
Princess Anne Medical Society, 370
Richmond Academy of General Practice, 590
Richmond Academy of Medicine, 50, 317
Roanoke Academy of Medicine, 590
Rockingham Medical Society, 317
Seaboard Medical Association, 51
Shenandoah Medical Society, 541
South Piedmont Medical Society, 102
Southern Medical Association, 103, 644
Southern Surgical Association, 51
Southwestern Virginia Medical Society, 590
Tazewell Medical Society, 152
Valley of Virginia Medical Society, 371
Virginia Chest Physicians, 643
Virginia Obstetrical and Gynecological Society, 643
Virginia Orthopedic Society, 643
Virginia Pediatric Society, 643
Virginia Peninsula Academy of Medicine, 317
Virginia Radiological Society, 643
Virginia Section, American Academy of General Practice, 259, 642
Virginia Section, Amer. College Physicians, 643
Virginia Society of Ophthalmology and Otolaryngology, 321
Virginia Society of Pathology and Laboratory Medicine, 643
Virginia State Board of Medical Examiners, 151, 320, 431, 486, 540
Virginia Urological Society, 643
Warwick Medical Society, 102
Williamsburg-James City Medical Society, 590
Wise Medical Society, 209
World Medical Association, 320

Specialization: Its advantages and abuses, 597
Streptomycin in acute brucellosis: a case report, 75; Treatment of laryngeal tuberculosis with —, 129; — in the treatment of draining tuberculous sinuses, 389
Sulfadiazine in treatment of meningococcic meningitis: study of 60 cases without a death, 397
Surgical operations, Early rising and early ambulation following, 435
Syphilis, Procedures employed in diagnosis of, 200; Management of early —, 219; Serologic tests for — and their clinical application, 292; The false positive serologic test in —, 341; Penicillin in cardio-vascular —, 357; The diagnosis and treatment of neuro- — with negative blood and spinal fluid Wassermanns, 564
Tax on physicians, State license, 642
Tetanus neonatorum: report of case with recovery, 575
Thrombosis, The history an important factor in diagnosis of coronary, 346
Thyroid surgery, 559
Thyrotoxicosis, Management of, 87
Tic douloureux: review of 200 cases treated by surgery, 386
Tissue diagnostic service, 610
Toxicological Laboratories of Chief Medical Examiner, Facilities available at the, 456
Tridione and an hydantoin, Another fatality following the use of, 288
Tuberculosis with streptomycin, The treatment of laryngeal, 129
Tuberculous sinuses, Streptomycin in the treatment of draining, 389
Tularemia in Virginia, 43
Typhoid fever: yesterday and today, 251
Ulcer, Gastric resection for peptic, 241; Treatment of peptic —, 281
Undulant fever, 32, 533
Urine, Blood in the, 550
Uterine cancer, Vaginal cervical smear in diagnosis, 568
Vagotomy, The results of, 265
Vascular disease, Management of peripheral, 248
Vitamin E in menopausal syndrome, The use of, 447
Vocational rehabilitation, a resource for physicians, 233
Westminster Abbey and its monuments, 47
X-ray radiation for basal cell epithelioma, 420

The inactivity following surgery or disease, and often encountered in the aged, makes constipation a likely occurrence. Dehydration, too, frequently is a significant contributing factor.

When the "smoothage" of Metamucil is employed in the management of constipation, normal evacuation is permitted without irritation or undue pressure on sutures and incisions. Thus straining is minimized.

Metamucil promotes smooth, normal evacuation by furnishing a non-irritating water-retaining colloidal residue in the large bowel.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

METAMUCIL® is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%), as a dispersing agent.

RESEARCH IN THE SERVICE OF MEDICINE

SEARLE

ELIZABETH BUXTON HOSPITAL AND TRAINING SCHOOL FOR NURSES

Newport News, Va.

FOUNDED 1906 BY JOSEPH T. BUXTON, M.D.

Russell Buxton, M.D.
Surgeon-in-charge

Approved by American College of Surgeons and American Medical Association for Internes
Approved by American Hospital Association.

JEFFERSON HOSPITAL AND TRAINING SCHOOL FOR NURSES

ROANOKE, VIRGINIA

A Fully Equipped General Hospital for the Care of Medical and Surgical Cases

No Drug Habitues, Contagious or Mental Cases received

For further information address WILLIAM J. LEES, Superintendent.

THE ATLANTA GRADUATE MEDICAL ASSEMBLY

Annual Meeting—January 24-25-26, 1949

Guest Speakers

ANESTHESIOLOGY

Dr. John S. Lundy
Mayo Clinic
Rochester, Minn.

CANCER

Dr. Everett D. Sugarbaker
University Hospital
Columbus, Mo.

ENDOCRINOLOGY

Dr. E. C. Hamblen
Duke University
Durham, N. C.

GASTROENTEROLOGY

Dr. Henry L. Bockus
University of Pennsylvania
Philadelphia, Pa.

OBSTETRICS & GYNECOLOGY

Dr. W. F. Mengert
Southwestern University
Dallas, Texas

MEDICINE

Dr. George C. Burch
Tulane University
New Orleans, La.

Dr. Walter Kempner
Duke University
Durham, N. C.

OPHTHALMOLOGY

Dr. W. B. Clark
Tulane University
New Orleans, La.

PATHOLOGY

Dr. Morton McCutcheon
University of Pennsylvania
Philadelphia, Pa.

PEDIATRICS

Dr. James L. Wilson
University of Michigan
Ann Arbor, Mich.

PSYCHIATRY

Dr. Wm. C. Menninger
Menninger Clinic
Topeka, Kansas

RADIOLOGY

Dr. Ross Golden
Presbyterian Hospital
New York, N. Y.

SURGERY

Dr. George Crile
Cleveland Clinic
Cleveland, Ohio

Dr. Lester Dragstedt
University of Chicago
Chicago, Ill.

Dr. R. H. Smithwick
Massachusetts General Hospital
Boston, Mass.

Dr. O. H. Wangensteen
University Hospital
Minneapolis, Minn.

TUBERCULOSIS

Dr. Rufus F. Payne
Battey Hospital
Rome, Georgia.

UROLOGY

Dr. Oswald S. Lowsley
Brady Foundation
New York, N. Y.

BIOCHEMISTRY

Dr. Konrad Bloch
University of Chicago
Chicago, Ill.

We would urge you to make hotel reservations immediately. Tell us your hotel needs, including arrival and leaving date, and your choice of the following hotels: Ansley Hotel, Hotel Atlantan, Henry Grady Hotel, Biltmore Hotel, Cox-Carlton Hotel, Imperial Hotel, Clermont Hotel, Piedmont Hotel and Robert Fulton Hotel. For further information or hotel reservation, write Mrs. S. R. Roberts, Executive Secretary, Atlanta Graduate Medical Assembly, 768 Juniper Street, N.E., Atlanta, Ga. Registration fee of $15.00 must accompany hotel reservation.

SHOULD VITAMIN D BE GIVEN ONLY TO INFANTS?

VITAMIN D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

MEAD'S Oleum Percomorphum With Other Fish-Liver Oils and Viosterol is a potent source of vitamins A and D, which is well taken by older children because it can be given in small dosage or capsule form. This ease of administration favors continued year-round use, including periods of illness.

MEAD'S Oleum Percomorphum furnishes 60,000 vitamin A units and 8,500 vitamin D units per gram. Supplied in 10- and 50-cc. bottles and bottles of 50 and 250 capsules. Ethically marketed.

MEAD JOHNSON & COMPANY, Evansville 21, Ind., U.S.A.

The New York Academy of Medicine

THIS BOOK MUST NOT BE RETAINED FOR LONGER THAN ONE WEEK AFTER THE LAST DATE ON THE SLIP UNLESS PERMISSION FOR ITS RENEWAL BE OBTAINED FROM THE LIBRARY.

DEC 2 8 1949	415 Va - Brout	
JUL 15 1952	Renewed	
~~OCT 8 1952~~	~~Lewis~~	